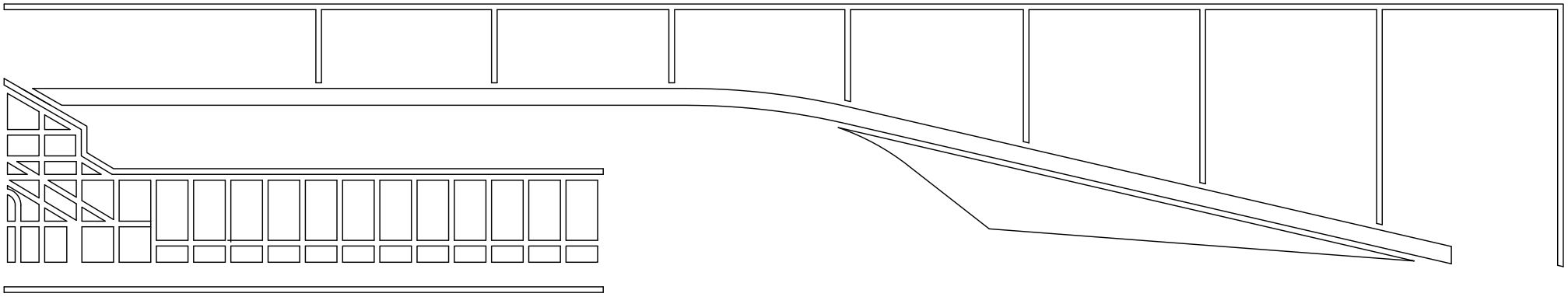
THE CREATIVE CONSERVATORY

LISA CAMILLE VERSEPUT

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YUNIBESITHI YA PRETORIA

CC

THE CREATIVE CONSERVATORY

A COMMUNITY MEDIA & CREATIVE ARTS CENTRE

LISA CAMILLE VERSEPUT

2016



LOCATION
Conservatory Complex, Joubert Park,
Corner of King George St. & Wolmarans St.
Johannesburg
26°11'42.4"S 28°02'45.9"E

PROGRAMME
A Community Media & Creative Arts Centre

RESEARCH FIELD
Heritage & Cultural Landscapes

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By Lisa Camille Verseput

Submitted in partial fulfilment of the requirements for the degree
Masters in Architecture (Professional)

Faculty of Engineering, Built Environment and
Information Technology
University of Pretoria, 2016

Study Leader: Johan Swart
Course Co-ordinator: Dr Arthur Barker

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DECLARATION

In accordance with Regulation 4(e) of the General Regulation (G.57) for dissertation and theses, I declare that the dissertation, which I hereby submit for the degree Master of Architecture (Professional) at the University of Pretoria, is my own work and has not been submitted by me for a degree at this or any other tertiary institution.

I further state that no part of the dissertation has already, or is currently being submitted for any such degree, diploma or other qualification.

I further declare that this dissertation is substantially my own work. Where reference is made to the works of others, the extent to which that work has been used is indicated and fully acknowledged in the text and list of references.



Lisa Camille Verseput

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ACKNOWLEDGEMENTS

I would like to thank everyone who supported me this year, and believed in me
when at times, I didn't believe in myself.

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Gavin Thompson for your unwavering support and complete understanding, I would not have made it through this year if it wasn't for your love, encouragement, and the constant supply of chocolate

Mark and Sandra Verseput, for being the most incredible and inspiring parents and for giving me this life changing opportunity which has contributed to the person I am today,
of whom I am, and I hope you are, proud.

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EKSERP

Johannesburg is gebou op die ontdekking en ontginning van goud, maar goud resereves loop nou leeg en ‘n nuwe hulpbron kan die stad vorentoe dryf: menslike kapitaal. Die kreatiwiteit en aspirasies van ‘n diverse bevolking onderhou Johannesburg as die ekonomiese spilpunt van die land, maar die stad het sy goue betekinis verloor en streef nou na ‘n nuwe identiteit: om die Kulturele Hoofstad van Suid Afrika te word - ‘n vergestalt diversiteit, kreatiwiteit en kulturele uitdrukking. Mense en kulture in die stad meng en nuwe idees word in publieke ruimtes gegenereer. Joubert Park is die stad se grootste en oudste park en huisves die Johannesburg Kunsgallery, hierdie ruimte kan ‘n belangrike rol speek in die stad se transformasie na kulturele kapitaal.

Die Joubert Park Konservatorium is ‘n eeu-oue en eens indrukwekkended onrnamentele kweekhuis, nou verlate en onversorgd. Die Konservatorium en sy omliggende ruimtes dra nie tot die park by nie, maar sy ikoniese form en posisie hou potensiaal in wat herontdek kan word as ‘n publieke ruimte van belang. Hierdie verhandeling ondersoek hoe ruimtelike veranderinge gebruik kan word om die vergete waarde van die terrein te herstel. ‘n Nuwe program wat die erfenis van die terrein repspekteer kan dit terselfdetyd verbeter om as kulturele landskap by te dra tot Joubert Park en tot die stedelike omgewing daarom by te dra as kulturale kapitaal.

Die program wat voorgestel word is die Kreatiewe Konservatorium, ‘n gemeenskapsentrum vir media en kuns wat universele media toegang dryf en ‘n omgewing skep vir die kultivasie van kuns en kulturele ontwikkeling en uitdrukking. Die Kreatiewe Konservatorium bedien die gemeenskap en mobiliseer die kunste ten einde sosiale en ekonomiese ontwikkeling te bewerkstellig en soedoende die kreatiewe ekonomie en kulturele landskap van Johannesburg te ondersteun. Die projek is ontwerp vir die hede, geïnspireer deur en in reaksie tot erfenis, om plekke te skep wat relevant sal bly in die toekoms.

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ABSTRACT

Johannesburg was built on the discovery and exploitation of gold, but the gold mines are depleted, and a new resource is driving the city: human capital. The ingenuity and aspirations of the dense and diverse population sustain Johannesburg as the economic capital of the country, but the City has lost its golden meaning and is striving for a new identity: to become the Cultural Capital of South Africa, an embodiment of diversity, creativity, and cultural expression. People and cultures of the City mix and spark ideas in public space, so Joubert Park, the central, largest, and oldest park in Johannesburg and home to the Johannesburg Art Gallery, should play a role in Johannesburg's transformation into the Cultural Capital.

The Joubert Park Conservatory is a century old ornamental greenhouse, once spectacular, it now lies abandoned and in disrepair. The Conservatory and its precinct currently provides no significant contribution to the public of Joubert Park, but its iconic design and position indicate its potential to be rediscovered as an important public space. This dissertation investigates how spatial interventions can be mobilised to re-establish the forgotten significance of the site, and introduce a programme that will respect and enhance the heritage of the Conservatory and its cultural landscape to contribute to Joubert Park as well as the greater urban environment as the Cultural Capital.

The proposed programme is the Creative Conservatory (CC), a community media and arts centre driving universal media accessibility and providing an enabling environment for the cultivation of artistic and cultural expression and development. The CC serves the community, mobilising the arts for social and economic development, thus supporting the creative economy and cultural landscape of Johannesburg. The architectural intervention of the CC is designed for the present, while inspired by and responding to heritage, so as to create places that will remain relevant in the future.

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Figure 0.
(Author, 2016)

'Humans are largely driven by their sensory and emotional landscape in spite of centuries of developing scientific knowledge and logical, analytical, abstract and technical thought. The arts are not rational in a scientific sense that does not mean they are irrational but rather a-rational. This is why all cultures develop the arts. This highlights the role of the arts in tapping potential. The assumption is that everyone can in principle be more creative, involved, engaged, informed and that this is significant in creating citizenship. The out of the box, lateral thinking and use of imagination present in the arts is perhaps the most valuable thing the arts can offer other disciplines such as planning, engineering, social services or to the business community especially if allied to other emphases like a focus on local distinctive-ness...There is a need to switch the question: Not what is the value of imagination creativity, culture, heritage, the arts or design for city development. Instead, what is the cost of not thinking of [them].'

Charles Landry (2011, p. 22)
Creativity, Culture & the City – A Question of Interconnection

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THE CREATIVE PROCESS

STRUCTURE OF THE DOCUMENT

The research methodology follows the steps of the creative process, as developed by Graham Wallas (1926) in 'The Art of Thought'. The four stages of creativity: preparation, incubation, illumination, and verification, which do not exist in isolation but have a constant interplay, as the mechanism of creativity is complex.

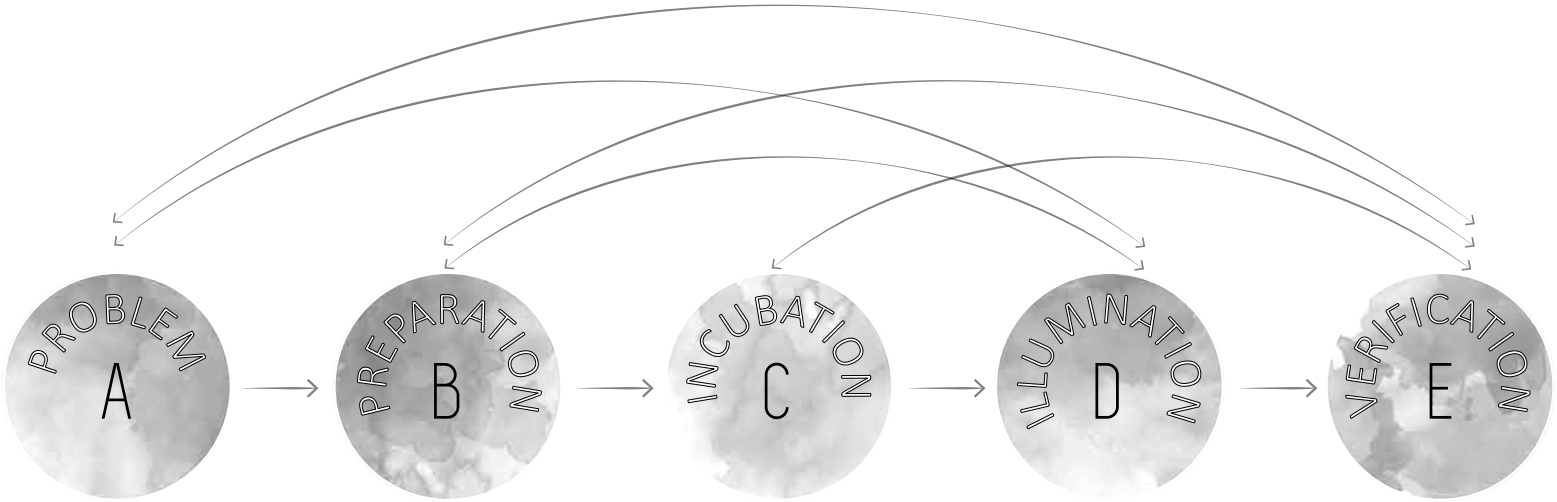


Figure 0.2
(Author, 2016)

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A_PROBLEM POSED

TASK TO BE RESOLVED IN THE CREATIVE PROCESS

Before the commencement of the creative process, the problem posed will be explained to provide an introduction to the investigation.

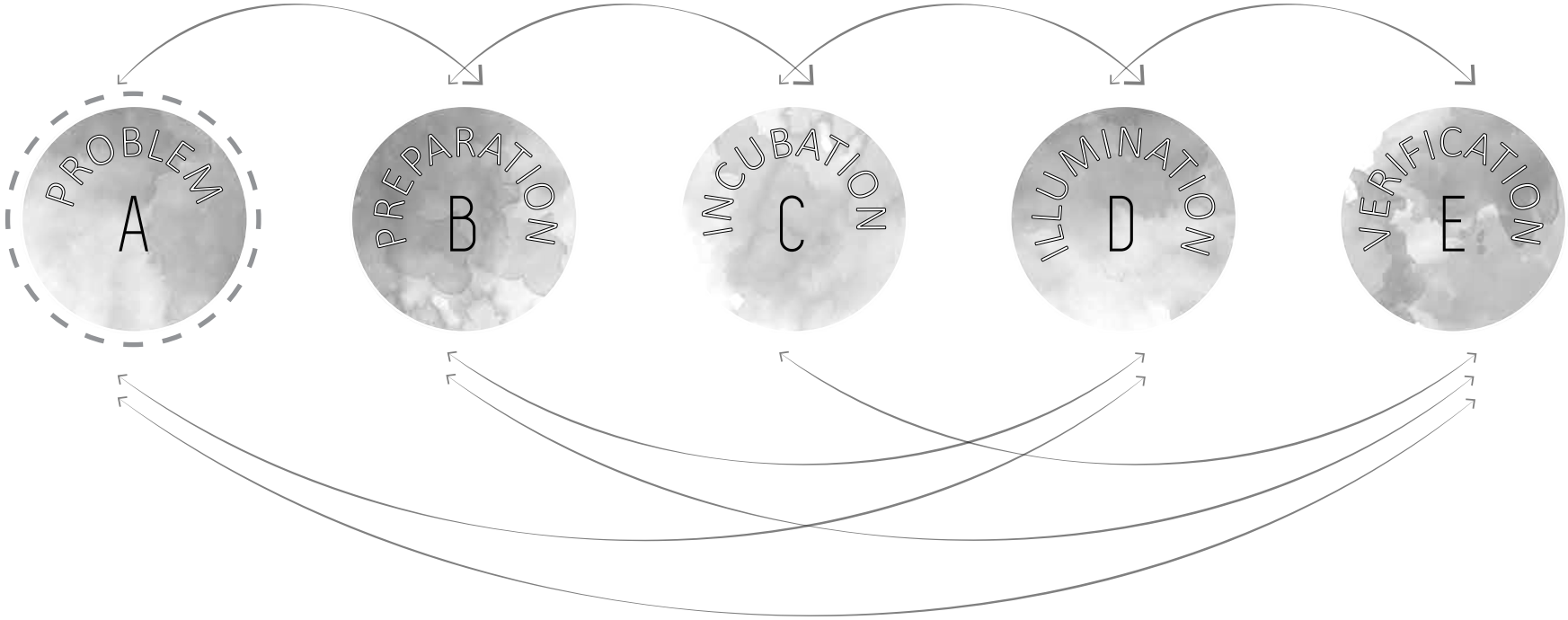


Figure 0.2
(Author, 2016)

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Figure 1.1
(Author, 2016)

CHAPTER 01

INTRODUCTION

Chapter 1 serves as an introduction to the context, approach, and intentions of the dissertation.

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1.1_NARRATIVE

1.1.1_FATE OF THE CITY OF GOLD

When a city is established around the presence of a resource, what becomes of it when that resource is depleted? In order to survive, the city must find new means to drive its economy, and in turn, the city must transform to accommodate the needs of this new resource (Figure 1.2). Johannesburg is such a city, built on the discovery and exploitation of gold. The gold has diminished, the once active mines are closing, and a new resource is running the city: human capital. The ingenuity and aspirations of the dense and diverse population of Johannesburg is the reason it remains the economic capital of the country, but the City has lost its golden meaning and is striving for a new identity: to become the Cultural Capital of South Africa, an embodiment of diversity, creativity, and cultural expression. Public space in the city is where diversity meets and people are truly exposed to one anothers' cultures and ideas. Therefore, Joubert Park, the central and largest Park in Johannesburg and home to the Johannesburg Art Gallery, should be a focus of Johannesburg's transformation into the Cultural Capital.

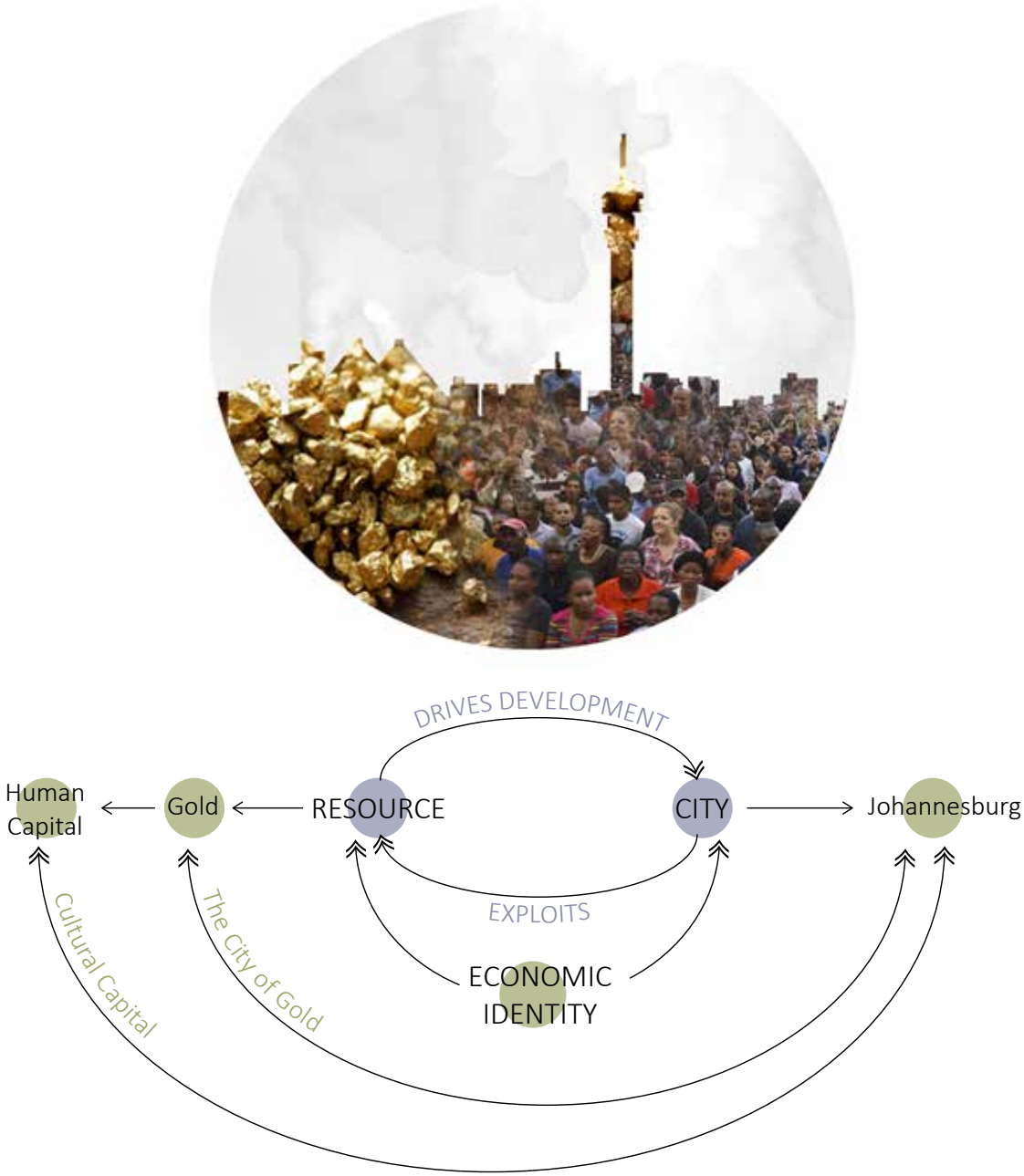


Figure 1.2
The Relationship between Resources and the City (Author, 2016)

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1.1.2_NORMATIVE POSITION

The author's normative position is that architecture ought to respond to present day contexts and needs, whilst relating to and understanding theory and history, to create buildings that are sustainable and remain relevant for future generations. The author identifies with her past lecturer, Heinrich Wolff's (2011), advice, that 'an authentic architecture must be rooted intellectually and experientially in the world in which it is located physically (Figure 1.3).' A contextual approach that responds to the tangible and intangible elements of the site drives the resolution of an appropriate architectural intervention for a specific site: the Conservatory Complex within Joubert Park, Johannesburg.

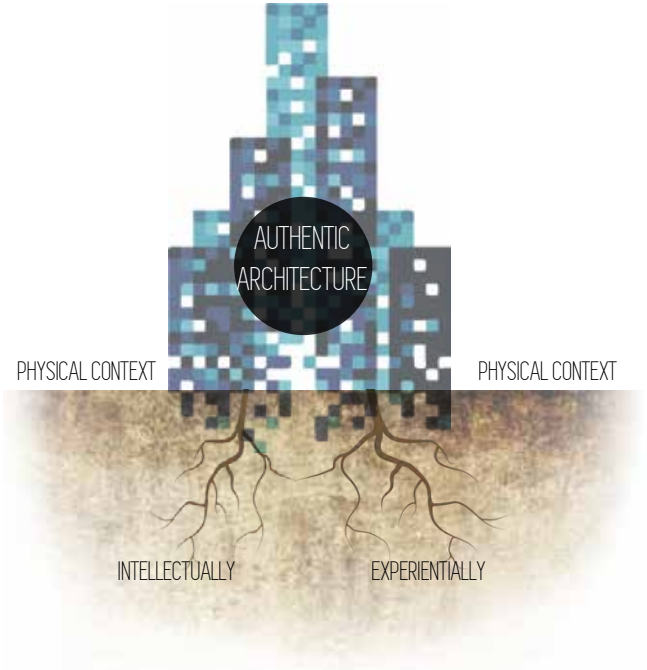


Figure 1.3
An Authentic Architecture (Author, 2016)

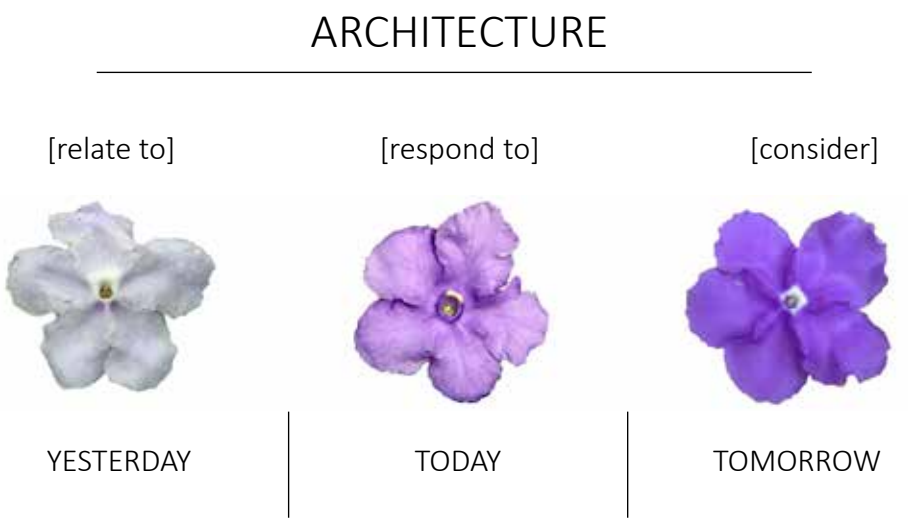


Figure 1.4
Architecture: Yesterday, Today, Tomorrow (Author, 2016)

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1.2_ISSUES

1.2.1_GENERAL ISSUE_THE CHANGING ECONOMY

Cities exist and prosper as a result of their ability to provide and exploit resources which contribute to prosperity and opportunity. The nature of these urban resources change, producing shifts in the economy. It is globally recognised that creativity and human ingenuity are replacing location, natural resources, and labour as the urban resources of worldwide economies (Landry, 2011). The creative economy is a sector of the economy relying on the imagination and talent of individuals to generate value and wealth. In many countries, the creative economy is growing at a faster rate than the overall economy. In USA and UK, growth rates were found to have been 3-5 times faster than the overall economy (ERC Services, 2002).

Johannesburg, the City of Gold, has always been an economically driven settlement. Johannesburg was founded on rich mineral deposits, with its booming economy relying on land, labour, and gold as resources. The present-day gold mines of Johannesburg are largely inactive, but the economy survives off its new resource: the culture of its dense and diverse population (Figure 1.5).

Johannesburg's fledgling creative economy relies on the potential of humans to innovate: people's skills, ingenuity, aspirations, motivations, imagination, and creativity (Landry, 2004). The issue lies in the inaccessible nature of the creative industries to most people living in the city, who are unable to contribute to Johannesburg's creative economy. If the economy is to transcend from surviving to thriving, with human capital as the new raw material of the city, the city needs to restructure its policies, organisations, and the urban fabric to respond to the needs of the community so that they may reach their full potential and drive development.

The City of Johannesburg (2007) is currently rebranding itself as the Cultural Capital of South Africa, with the aim of driving innovative thought, cultural diversity, and the creative economy forward. This cannot be achieved through top-down policies, as the people of the area have the right to contribute to the making and remaking of their city (Harvey, 2012).

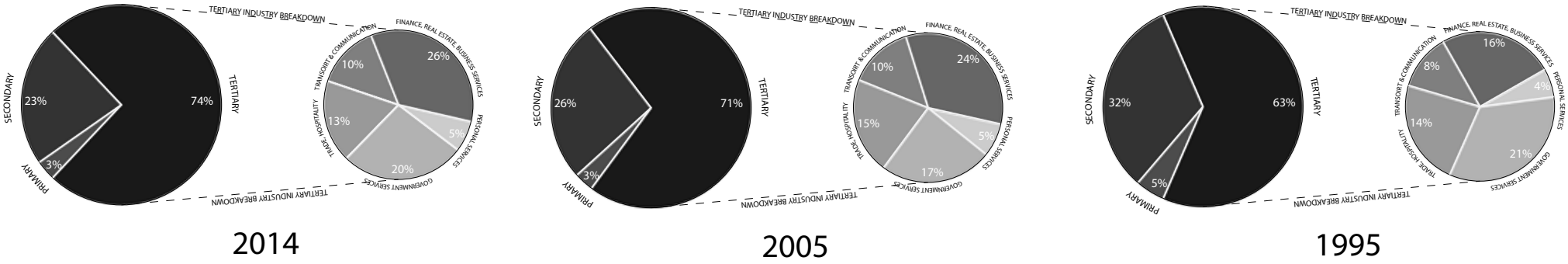


Figure 1.5
This GDP graph illustrates the transformation of Gauteng's economy into one which increasingly relies on human capital (Author 2016, GDP data from Stats SA, 2011)

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1.2.2_URBAN ISSUE_ THE NEED FOR RENEWAL

The built environment of the city exists to support and drive the economy, therefore, fluctuations in resource focus have spatial implications. Johannesburg's economy is changing, but its urban environment has not adjusted to suit the needs of the creative economy. The issue is that Johannesburg's urban fabric is ill equipped to foster creativity, with its cultural and creative industries fractured and disconnected (South African Government, 2015). The lack of interaction between the different creative sectors results in the inability for cross-pollination of ideas, which is of the utmost importance for the generation of innovative solutions driving the creative economy.

The City's fabric needs to undergo urban renewal to support the changing economy, and urban planning projects of the JDA and various consultants are already underway to achieve these ends (Johannesburg Development Agency, 2011). At the root of urban renewal are the social, economic, and physical characteristics of the City, and the role of architecture is to drive change by shaping space that can contribute to positive change and relevant programmes.

Furthermore, Johannesburg's urban environment reflects its complicated and contested heritage. Layers of colonial, apartheid, and modern planning overlap and intersect with one another. These often contested spaces need to be renegotiated and integrated into their contemporary context.

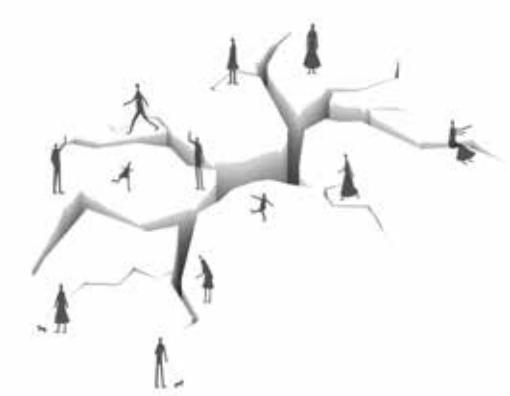


Figure 1.6
Fractured cultural and creative industries results in lack of interaction (Author, 2016)

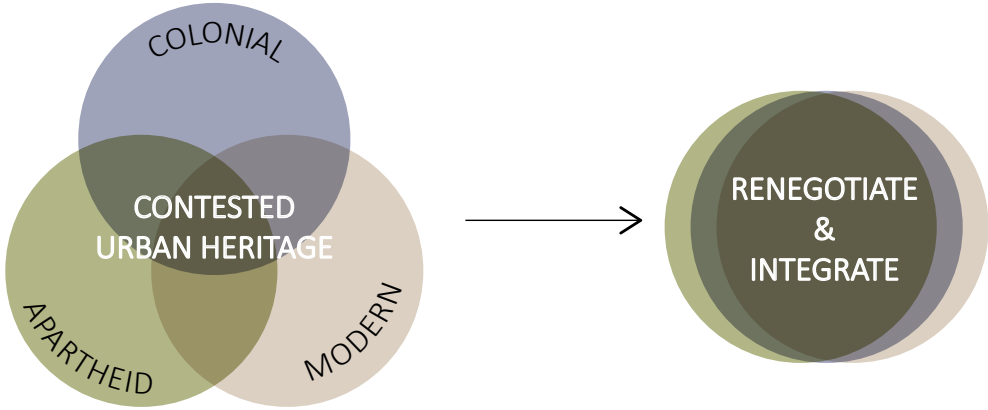


Figure 1.7
The renegotiation of our contested heritage (Author, 2016)

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1.2.3_ARCHITECTURAL ISSUE_ THE UNDERUTILISED POTENTIAL OF HERITAGE

Johannesburg is a historic city with exciting architectural remnants of its constantly transforming identity. Unfortunately, much of the city's heritage fabric has lost its relevance because it doesn't serve a purpose in present day activities. Architectural development needs to confront this disconnect between heritage structures and their current context so that the past is able to contribute to a thriving future.

Joubert Park's heritage structures, the Johannesburg Art Gallery, the Bandstand, the central fountain, and the Conservatory, were originally inviting public spaces that activated the Park. Today, Joubert Park is compromised by the privatisation of these structures and its public space (Figure 1.8). The introduction of private functions which do not contribute to the public environment, such as the crèche and the Greenhouse Project (Figure 1.8), is problematic as the public have no role in the ownership of the space, resulting in its isolation from its context and the unavoidable fences and boundaries. Public space should be the primary platform for cultural engagement and creative cross-pollination as diverse people are located in a common space. The heritage of Joubert Park has the innate potential to inspire public engagement and stimulate activity by embracing the past to create a holistic future.



PAST

PUBLIC JOUBERT PARK



PRESENT

PRIVATISATION OF HERITAGE &THE PUBLIC REALM

Figure 1.8
Privatisation of Joubert Park's Heritage (Author, 2016)

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1.3_THE SITE

1.3.1_LOCATION

The dissertation site is the Conservatory Complex, located in the north western quadrant of Joubert Park, inner-city Johannesburg.

26°11'42.4"S 28°02'45.9"E

Conservatory Complex, Joubert Park, Corner of King George St and Wolmarans St., Johannesburg

1.3.2_JOUBERT PARK

Joubert Park is an artefact of Johannesburg, with its inception in 1890 (South African History Online, 2016). Lying in the centre of the original settlement, Joubert Park was the first proclaimed landscaped park and remains an important public space to this day. The dissertation considers the layers of Joubert Park's identity and how it has transformed to suit the needs of the day: it has been an oasis, a cultural node, a social space, and is now a transit hub. However, Joubert Park's history and significance are fading as transportation networks encroach upon its tangible and intangible presence. This dissertation considers the heritage of Joubert Park and its iconic architecture (the Johannesburg Art Gallery, the Conservatory, and the Bandstand) and how it can be mobilised to fulfil present day and future aspirations of Johannesburg and its residents.

1.3.2_THE JOUBERT PARK CONSERVATORY COMPLEX

The once spectacular ornamental greenhouse conservatory, located in the NW quadrant of Joubert Park, lies abandoned and in disrepair. Despite its current condition, its historic significance as a place of cultivation combined with its iconic location and architectural presence provide the opportunity for the Conservatory and its Complex to be rediscovered as an important public space. The Conservatory Complex is the site of the dissertation, which aims to understand the tangible and intangible qualities of the site and generate an appropriate response which draws on its heritage and contextual significance.



Figure 1.9
Google Earth views zooming in on the site (Google Earth Pro, 2016)

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1.4_PROBLEM STATEMENT

The City of Johannesburg is branding the inner city as the Cultural Capital, and Joubert Park is not only the centre of the inner city, but also the location of the Johannesburg Art Gallery (JAG), a premier art museum and heritage building. Unfortunately, Joubert Park is largely disconnected from the broader cultural sector of Johannesburg. Joubert Park's heritage fabric is not contributing to the identity of the inner city or adapting to the changed needs of the community residing there. One such structure is the Conservatory, an abandoned ornamental greenhouse that is over a century old. Although the Conservatory and its precinct currently provides no significant contribution to the public of Joubert Park, its iconic design and position indicate its potential to be re-discovered as a valuable artefact. The problem posed is how spatial interventions can be mobilised to re-establish the forgotten significance of the site, and introduce a programme that will respect and enhance the heritage of the Conservatory and its cultural landscape to contribute to Joubert Park, as well as the greater urban environment as the Cultural Capital.

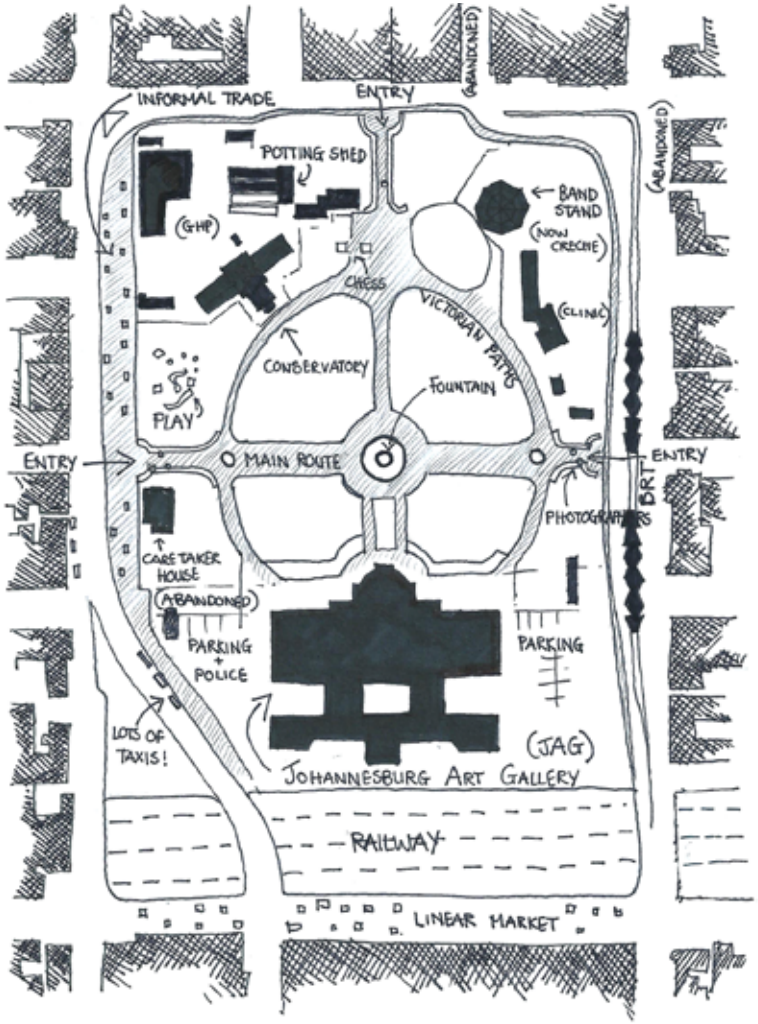


Figure 1.10
Sketch map of Joubert Park with notes (Author, 2016)

1.5_RESEARCH QUESTIONS

1.5.1_MAIN QUESTION

How can an architectural intervention at the Joubert Park Conservatory Complex rejuvenate its tangible and intangible historical, cultural, social, and natural heritage to exemplify the unique identity of place, maintain relevance for future generations, and contribute to Johannesburg's branding as the Cultural Capital and the development of the creative economy?

1.5.2_SUB-QUESTIONS

- What architecture is required to give expression to the creative industry and the relationships between its different sectors?
- How can the creative and cultural economy contribute to placemaking within Joubert Park and the inner city?
- How can architecture express the dialogue between the past, present, and future?
- How can heritage structures, such as the Conservatory, be reinterpreted to suit present needs?
- How can a new intervention and form engage with broader cultural and social contexts?

What programmes and stakeholders can contribute to this end?

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1.6_RESEARCH METHODOLOGY

This dissertation is an architectural investigation informed by various methods of research required to develop a holistic spatial intervention within the Joubert Park Conservatory Complex and the greater urban context.

This dissertation methodology follows the creative process, as developed by Wallas (1926) and illustrated in Figure 1.11.

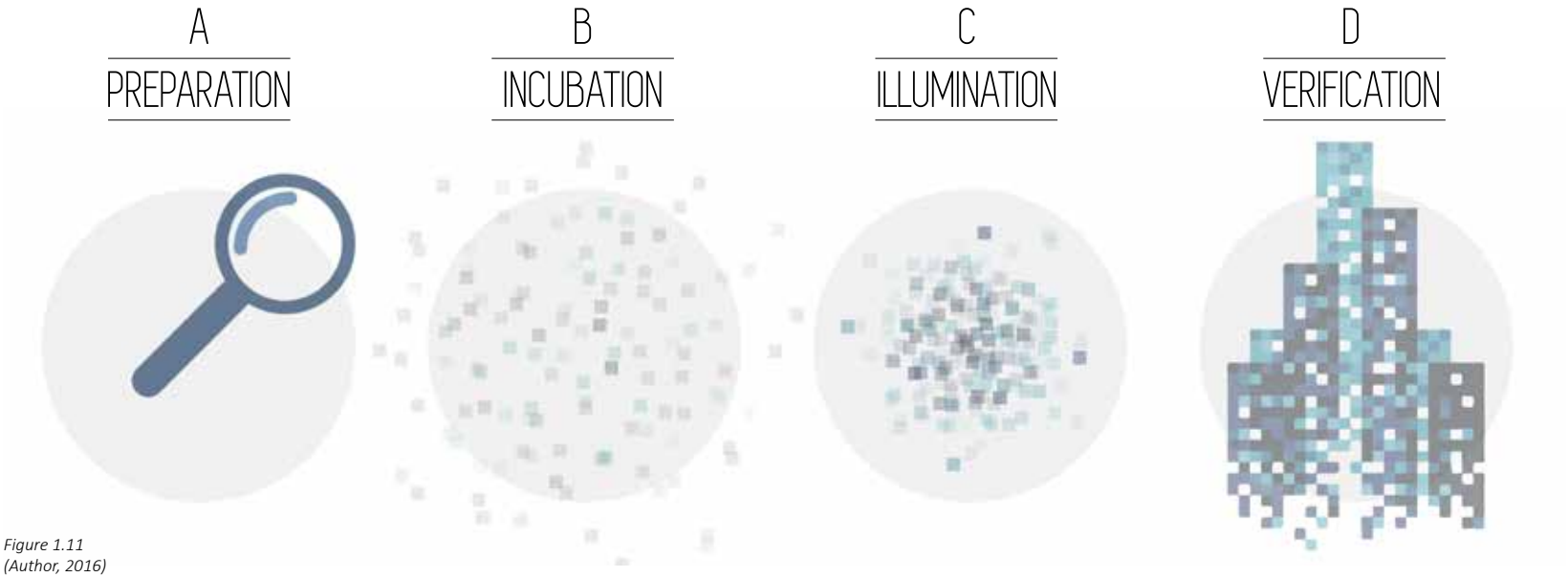


Figure 1.11
(Author, 2016)

Investigation of the Problem

Quantitative and qualitative site analyses on a macro and micro scale are undertaken. The site is documented and explored through photography, sketching, model building, and observations of the site's character on different scales.

Preconscious Processing

Literature studies and theoretical exploration will further inform the spatial response.

Idea Formulation

Desktop research undertaken, following ascertaining of the site opportunities and constraints, informs the programmatic decisions. A design concept is developed, through maquettes and sketching, which leads the spatial investigation.

Application of the Idea

Design development will take place through iterations using different scales and mediums, including sketching, technical drawing, and model building.
Technical resolution of aspects critical to the design and concept is achieved through research, precedent studies, and application to the project through drawing and modelling.

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1.7_PROJECT INTENTIONS

1.7.1_GENERAL INTENTIONS

If Johannesburg is to become the Cultural Capital with a flourishing creative economy, the city needs to refocus to develop human capital, whose currency is talent, imagination and intelligence; and social capital whose currency is trust, reciprocity, connectedness and networks (Landry, 2004). The project intends to investigate spatial methods driving the development of human and social capital.

1.7.2_URBAN INTENTIONS

The urban intention is to connect Joubert Park to the larger framework of cultural nodes within Johannesburg. In doing so, Joubert Park can contribute to the establishment of a creative milieu. The urban intention is to give expression to Joubert Park's cultural identity. The development of a spatial structure informed by the past, existing context, and aspiring future will be investigated. This includes the development of defined nodes within the Park, as well as addressing the edge conditions and the disconnection between the heritage fabric and its current urban context.

1.7.3_ARCHITECTURAL INTENTIONS

Architecture has the capacity to create spaces which stimulate networking and engagement between the creative industries and facilitate various levels of creative expression for people. This, in turn, will develop Johannesburg's creative economy and assert its identity as the Cultural Capital of South Africa.

The project intends to draw on the inherent qualities of the Conservatory Complex within Joubert Park to re-establish its contribution to the urban fabric of contemporary Johannesburg as the Cultural Capital. Through the spatial reconfiguration of the Joubert Park Conservatory Complex, the project aims to render the cultural sector accessible and inclusive to all people of the inner city and facilitate interaction between different cultural industries. In doing so, the creative economy is supported by a larger audience, increased human innovative capital, and the benefits of networking.

The architectural intention is to generate spaces which may act as catalysts for social and economic growth and development, which can be transferred beyond their tangible boundaries. This is achieved through the creation of various courtyards, landscapes, and buildings that support culture and the creative industries. The new architectural interventions should respond to the existing fabric of Joubert Park and the Conservatory, drawing on the innate character of the different elements. A contextual approach should drive the architecture, such as building heights and locality as well as the position of trees. The aim is to celebrate the tangible and intangible heritage of the Conservatory through the development of the cultural landscape, so the Complex is once again able to contribute to the urban fabric and the community.

The intention is to investigate architecture that is appropriate within the Park landscape, responds to and is inspired by the Conservatory's tangible and intangible heritage, and is able to contribute to social, economic, and cultural development (Figure 1.13).



Figure 1.12
General, Urban, & Architectural Intentions
(Author, 2016)

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1.8_THEORETICAL APPROACH

Architecture that...

Integrates with the Park

Is Inspired by Heritage

Contributes to Development



Figure 1.13
(Author, 2016)

The theoretical premise of the dissertation is placemaking, the establishment of meaningful places in which people can dwell. The transformative potential of culture and the creative industries is investigated in Landry and Bianchini's (1995) theory of the Creative City, and how this can be applied to Johannesburg. Creative placemaking is investigated, exploring how cultural and creative activities can shape the physical and social identity of a place.

The theory investigates the role of tangible and intangible heritage in placemaking. The intangible memory of the site contributes to its identity and the tangible heritage fabric can be reinterpreted to suit current needs. Adaptive reuse becomes an important approach when dealing with these heritage structures, so as to maintain cultural continuity (Figure 1.15).



Figure 1.14
(Project for Public Spaces, 2016)

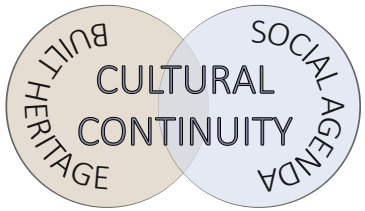


Figure 1.15

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1.9_THE PROPOSED PROGRAMME

1.9.1_PROGRAMME

The proposed programme is the Creative Conservatory (CC), a community media and arts centre driving universal media accessibility and providing an enabling environment for the flourishing of artistic and cultural expression and development. The CC prioritises creative career development, community media, workshop problem-solving, and artistic expression, facilitating social inclusion and developing creative communities. The CC provides resources, facilities, and platforms for cultural and creative practitioners and enables the development of community media (radio and news print). The CC serves the community, mobilising the arts for social and economic development, thus supporting the creative economy and cultural landscape of Johannesburg.

1.9.2_CLIENT

The Creative Conservatory is a private NGO and the primary client of the dissertation. The CC works in partnership with the following organisations, considered as secondary clients: Johannesburg Art Gallery (JAG), The City of Johannesburg, and Joburg City Parks.

the creative conservatory

Figure 1.16
Logo for the Creative Conservatory (Author, 2016)

1.10_THE CONCEPT

The dissertation project explores the concept of a building as an extension of the park landscape, providing an accessible secondary ground plane in the form of a planted roofscape.

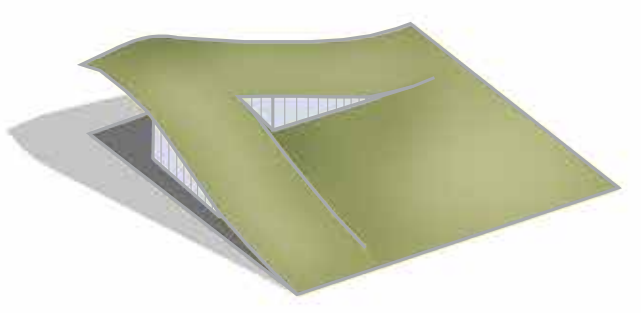


Figure 1.17
Building/Landscape (Author, 2016)

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1.11_DELIMITATIONS & ASSUMPTIONS

1.11.1_DELIMINATIONS

A contextual approach drives the resolution of the architectural intervention, as such, the findings are applicable to the Joubert Park Precinct and Conservatory Complex in particular. Although Johannesburg's identity as the Cultural Capital is key in this investigation, it provides context to the development of a single node in this dissertation, which does not deal with the larger inner city cultural regeneration. Therefore, the dissertation addresses the proposed Conservatory Complex site within the larger Joubert Park Precinct.

As the site is located in a Park, the author will address landscaping and the planting of indigenous species to a certain extent. However, landscape architecture is not the focus of the dissertation, but rather supports the aims of the conceptual and architectural intervention.

1.11.2_ASSUMPTIONS

The project works within the context of Johannesburg as the Cultural Capital of South Africa, with Joubert Park as an iconic public place and the Conservatory Complex as a creative node within the Park.

1.12_ACADEMIC CONTEXT

Placemaking has long been a topic of architectural discussion, with theorists such as Heidegger and Norberg-Schulz maintaining that the architect's purpose is to create places for dwelling (Parsaee, et al., 2015). The dissertation contributes to the discourse by investigating and applying the theory of creative placemaking, employing arts and culture to shape places.

The project fits within the discourse of urban conservation and adaptive reuse, important approaches to heritage preservation within the built environment. Adaptive reuse often focuses on the tangible elements of heritage and how it is able to fulfil new functions. The dissertation aims to respond to tangible, as well as intangible heritage of the Conservatory and Joubert Park, reflecting on the importance of considering both facets of heritage. Investigations into the changing identity of these spaces as well as current needs of the community, drive the programmatic decisions, as well as the architecture.

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1.13_ TERMINOLOGY



Figure 1.18
(Author, 2016)

CREATIVE ECONOMY
A sector of the economy relying on the imagination and talent of individuals to generate value and wealth.

CREATIVE INDUSTRIES
Industries that generate and exploit intellectual property to create jobs and wealth, using creative content for commercial ends. (Enders Analysis, 2014).

CULTURAL INDUSTRIES
Industries that are related to creativity, but are not defined by economic value, but rather by their social contribution to identity and shared values alongside individual creativity and expression (Enders Analysis, 2014).

CULTURAL & CREATIVE INDUSTRY SECTORS
'Traditionally the cultural or creative industries include: music (classical, popular, folklore); the visual arts (painting, sculpture, public arts and the decorative arts); the publishing sector based on writing and literature (books, magazines, newspapers); the audio-visual and media sector (film, television, photography, video, broadcasting); the performing arts (theatre, dance, opera, live music etc.); the multimedia sector (combining sound, text and image); crafts; cultural tourism; and the cultural heritage sector (museums, heritage sites and cultural events such as festivals and commemorations) (Landry, 2004, p. 29).'

CREATIVE PLACEMAKING
The process whereby the physical and social identity of a place is strategically shaped around arts and culture activities by partners from the public, private, non-profit, and community sectors (Markusen & Gadwa, 2010).

CONSERVATORY COMPLEX
The site of this dissertation. The Joubert Park Conservatory and the NW quadrant of Joubert Park.

ACRONYMS

CC
The Creative Conservatory

JAG
The Johannesburg Art Gallery

JPG
The Joubert Park Group

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Figure 1.19
(Author, 2016)

1.14_SYNOPSIS

The project will explore the importance of creating spaces facilitating artistic expression and exchange, through theoretical investigations and an architectural intervention. Heritage fabric is explored as a design driver within the specific context of Joubert Park.

1.14.1_URBAN VISION

The dissertation will expand on the group vision for Joubert Park as a node in the network of iconic public places driving Johannesburg's Cultural Capital identity. The urban vision focuses on the creation of a new identity for the Park, which is an amalgamation of inherited characteristics and identities. Joubert Park is re-envisioned as an Urban Artscape driving creativity, innovation, and artistic expression.

1.14.2_ARCHITECTURAL VISION

The architectural response envisions a mutually beneficial relationship between new and old architecture, in which the heritage structure inspires the new architecture, which in turn may provide the old architecture with purpose and contemporary significance within its context. The vision for the architectural intervention is that it is contextually appropriate, innovative, and sustainable. The architectural response is designed for the present, while responding to heritage of the past, so as to create places that will be relevant for the future.

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B_PREPARATION_Part 1

INVESTIGATION OF THE PROBLEM'S DIMENSIONS

The First Stage of the Creative Process, according to Wallas (1926) is Preparation. The Preparation process prescribes an investigation and analysis of the Problem to be solved, providing the individual with the knowledge and tools to develop an innovative and relevant solution.

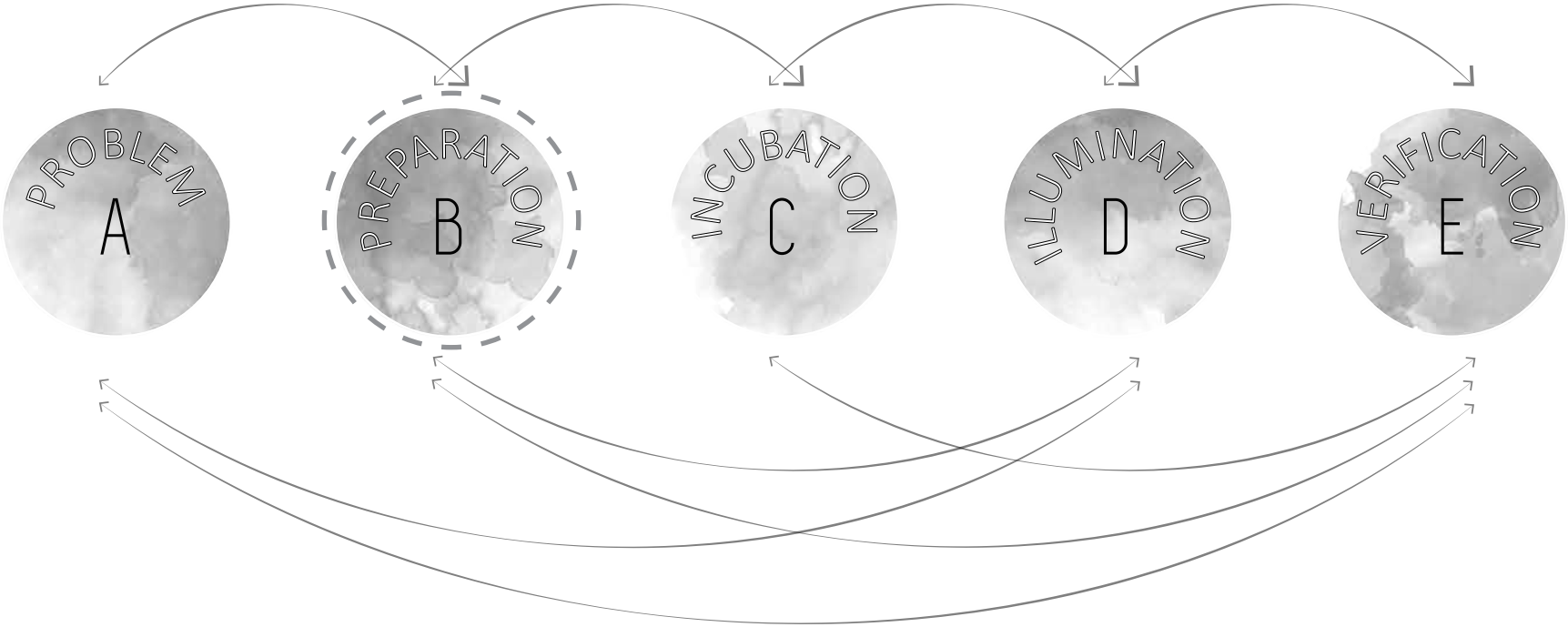


Figure 0.2
(Author, 2016)

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Figure 2.1
Jaco van den Heever (2012), Of Dreams and Nightmares

CHAPTER 02

URBAN ANALYSIS

Chapter 2, the Urban Analysis, will explore the macro-context of Johannesburg including its history and an analysis of its intrinsic characteristics. The narrative of Johannesburg's development from a mining town to a cosmopolitan city will be told. The role of Joubert Park within the story of Johannesburg is explored in a micro-analysis of the qualities of the Park. The changing identity of the space will be investigated, as well as an in depth assessment of its spatial qualities. Conclusions will be drawn from the analysis of contextual influences, including the physical, historical, social, economic, and cultural attributes of the site.

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2.1_INTRODUCING JOHANNESBURG: THE CITY OF GOLD

2.1.1_NARRATIVE

Johannesburg, Jozi, Joburg, eGoli, a dynamic city with a heritage like no other, my birthplace, my home. My city is far from perfect: crime, homelessness, corruption, and xenophobia, but look beyond that – it is so much more: an amalgamation of cultures and contradictions. See the silhouette of a burgeoning city against the pink sunset sky. Hear the bustling people hurrying along the streets and the music of performers bringing life to mundane everyday rituals. Experience the varied tastes of my city, where all people and cultures bring their foods to the mix. Smell the blossoming trees in the air and when autumn comes, feel the crisp leaves beneath your feet. It is a vibrant place, a city that is difficult to grasp, but captivates you. This is my city, alive with limitless possibility, if only we strive to understand it, to embrace it, to drive Johannesburg forward towards a bright future.



Figure 2.2
Jaco van den Heever (2012), Shape of a City

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2.1.2_BACKGROUND

'The city of Johannesburg, South Africa, is a multi-layered landscape of intersecting, overlapping and conflicting geographies, places and identities. Until recently, these were shaped, almost exclusively, by geological and political conditions, replaced today by the dynamic of unbridled economic forces (Bremner 2010:172).'

In July 1886, George Harrison's gold discovery on the Witwatersrand transformed the 'Uitvalgrond', previously unclaimed farm land, into a bustling mining camp. Within one month, 3000 people had inhabited the area, a number which grew exponentially, reaching over 100,000 by 1895 (South African History Online, 2016). What was initially predicted to be a temporary settlement rapidly became the economic hub of sub-Saharan Africa known as Johannesburg: The City of Gold.

Johannesburg was built on the foundations of economy, wealth, and opportunity. It is an unlikely city, its very existence threatened from the start by its isolation from other urban centres, trade routes, and major waterways. Despite these challenges, Johannesburg has maintained its status as a leading business hub of Africa, remaining a beacon of opportunity for people travelling to the city in search of bettering their lives, and an important interface between political, economic, and cultural networks. Johannesburg is regarded as a symbol of African Modernity, embodying the dream of economic success and as gateway into cosmopolitan cities of the world (Pinther, et al., 2012).

Today, Johannesburg is the provincial capital of Gauteng, South Africa's wealthiest province, and has a population of over 4.5 million people. Contemporary Johannesburg is a reflection of its complex development and history, which has shaped its spatial condition. Johannesburg originated as a colonial settlement, following the traditions and architectural fashions of Europe, but has since transformed into a cosmopolitan African city, which is fragmented and, to some extent, fiercely contested (Pinther, et al., 2012). The last thirty years have witnessed the transformation of Johannesburg's inner city from a white district into a Pan-African hub, but the area remains marked by the policies of apartheid, a regime which segregated people according to race, undermining and exploiting those considered 'non-white'. Consequently, current urban development and social discussions focus on the renegotiation of spaces: their use and significance. Cook (2011) explains that space was a fundamental element in the development of the colonial and apartheid state, therefore architectural skills ought to be leading the dismantling and reshaping of the urban condition in South Africa and its cities. This dissertation aims to generate architecture which facilitates this transformation and supports unity, prosperity, and freedom of expression.

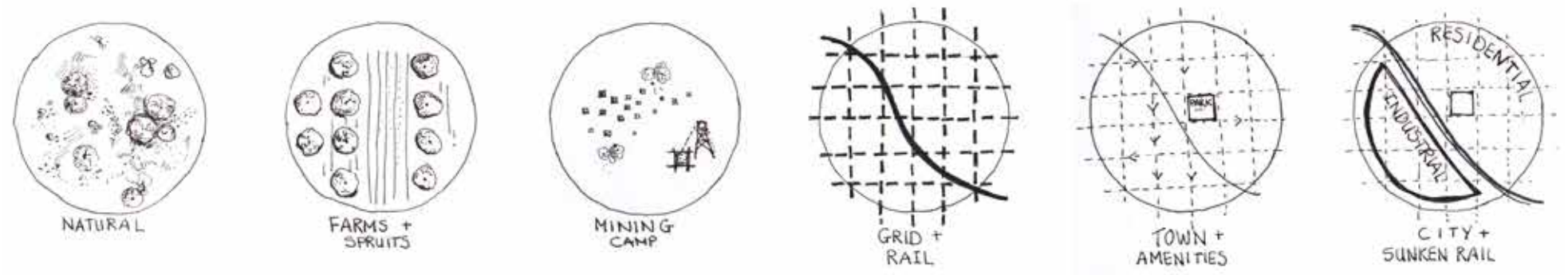


Figure 2.3
The transformation of Johannesburg's landscape (Author, 2016)

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Figure 2.4
Locating Johannesburg's precinct landmarks
(Author, 2016, adapted from Google Earth Pro, 2016)

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2.1.3_SITE LOCATION

The subject of the urban analysis is the inner-city of Johannesburg, with a focus on Joubert Park, which lies at its centre (Figure 2.5). The Urban Analysis aims to understand the Joubert Park Precinct on a macro and micro scale in relation to its context.

2.1.4_THE JOUBERT PARK GROUP (JPG)

The Joubert Park Group (JPG) is a unit of University of Pretoria architecture Masters students whose 2016 dissertation interventions are based within the Joubert Park Precinct: Lisa Verseput (author), Jade Swanepoel, and Ilhaam Tayob. The JPG conducted a thorough site analysis to understand the dimensions of the site. The site investigation considered the tangible and intangible qualities of the area on a macro and micro scale. This inspired a cognisant urban vision for the precinct in which individual architectural interventions are rooted.

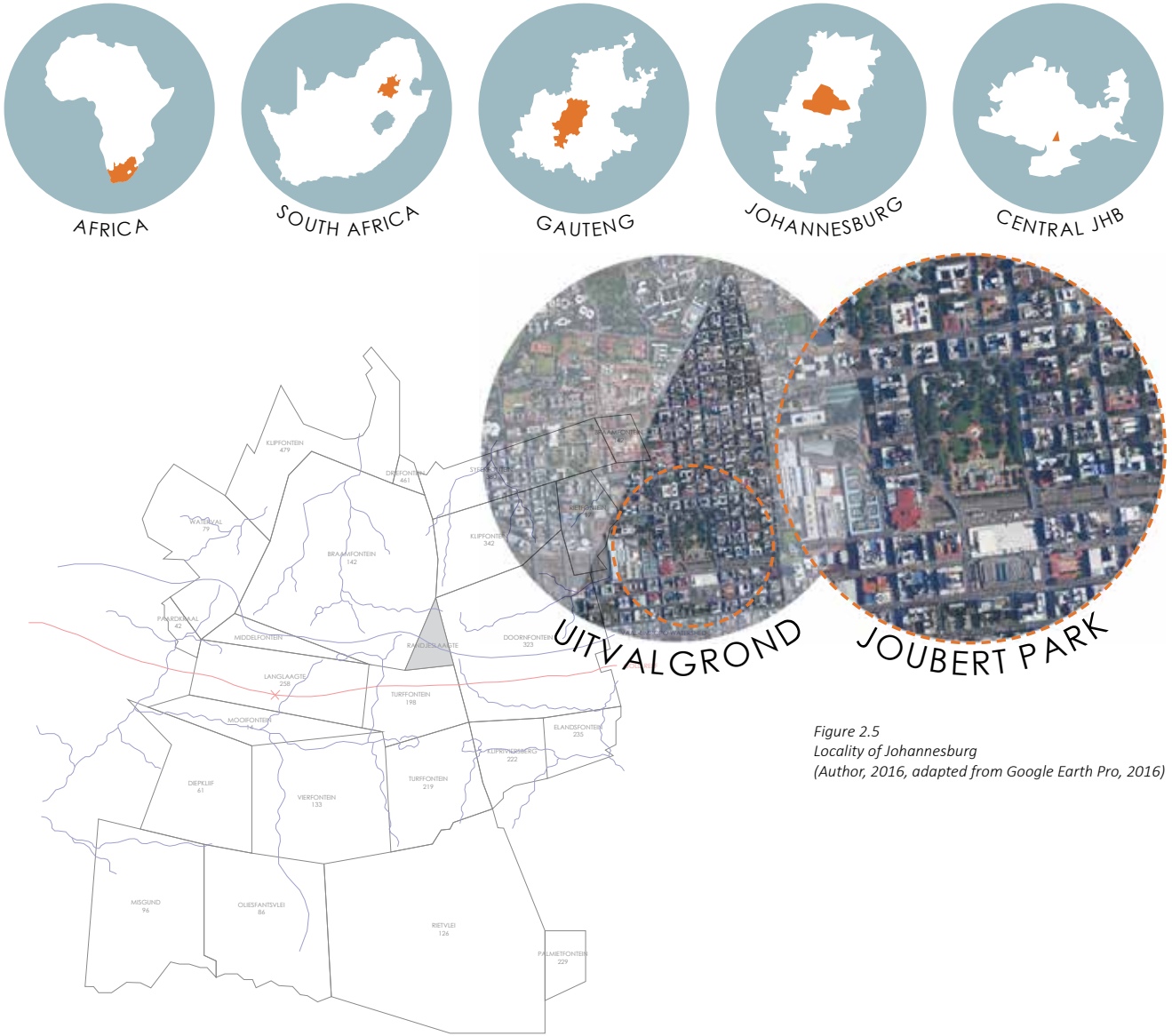


Figure 2.5
Locality of Johannesburg
(Author, 2016, adapted from Google Earth Pro, 2016)

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2.2_INVESTIGATING JOHANNESBURG

2.2.1_PREHISTORY OF JOHANNESBURG

The Johannesburg region's identity was tied to the wealth of gold long before the gold rush of 1886. The indigenous residents of the sub-Limpopo region used gold in the manufacture of artefacts from as early as 1050, during the Kingdom of Mapungubwe (South African History Online, 2016). Dutch immigrants moving through the Transvaal during the 19th century prioritised survival rather than prospecting for mineral wealth and the potential threat posed by a public discovery of gold to their new-found independence was recognised. For some time, it was regarded a punishable offence to make public any discovery of mineral deposits (South African History Online, 2016). The area was divided into farms, with one triangle of forgotten land left out of the equation: the *uitvalgrond*.

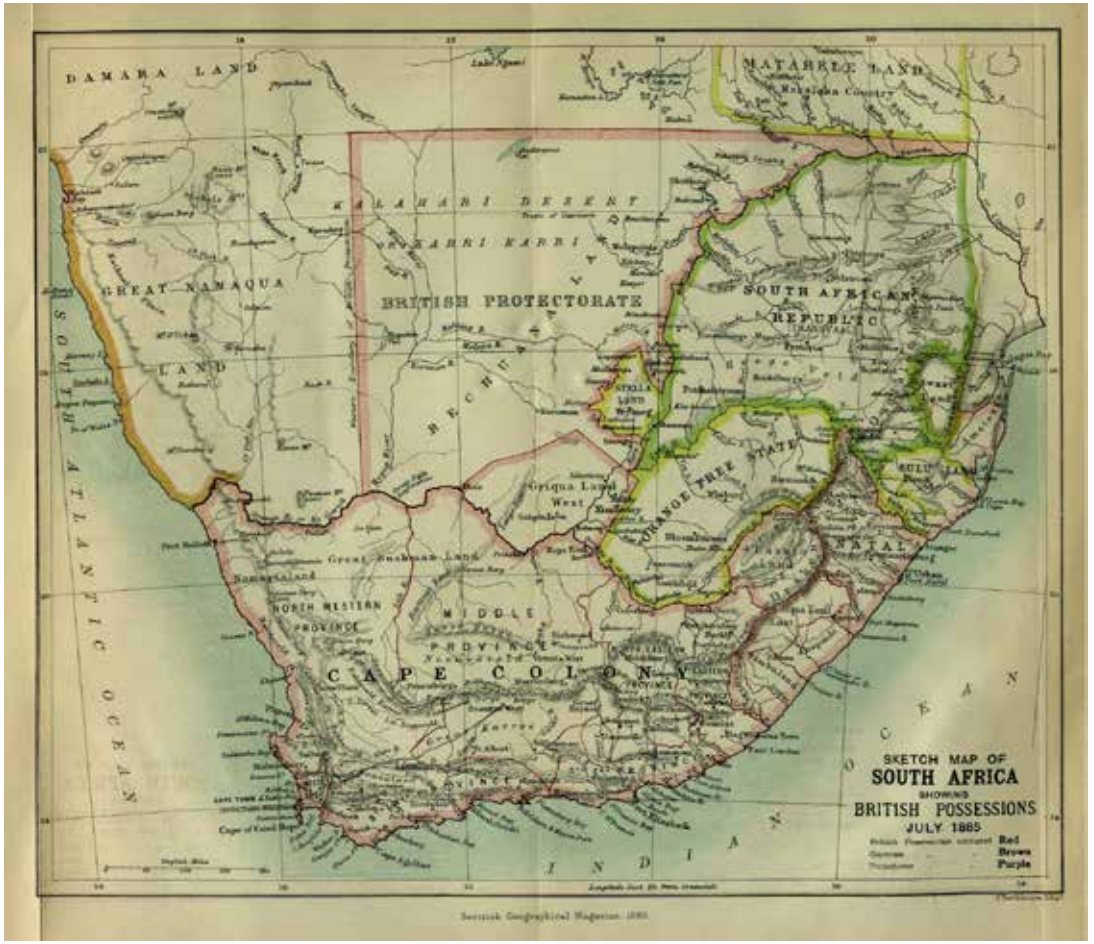


Figure 2.6
Map of South Africa (1885) prior to the discovery of gold and establishment of Johannesburg (The Apartheid Museum, 2016)

© University of Pretoria

2.2.2_ THE ORIGIN OF JOHANNESBURG: THE MINING CAMP

Rumours of gold in the Transvaal filtered through to the outside world and the economic advantages of the situation overcame isolationist objections, and licences to prospect were issued. In early April 1886, while hiking along the ridges of Langlaagte farm, a man by the name of George Harrison made an incredible discovery: a rich gold deposit that sparked gold fever in the area (South African History Online, 2016). In October, the unowned farm Randjeslaagte, the uitvalgrond, was officially declared a mining camp by the name of Johannesburg, to accommodate the large influx of people. Plots were subdivided and sold on auction as a temporary solution. The central district was typical of 20th century mining camp planning, designed with impermanence in mind. As previous gold discoveries in the Transvaal proved to have short working periods, Johannesburg was predicted as a temporary, short-lived settlement. Unpredictably, the reef proved to run deep and wide, giving Johannesburg an uncertain life span.



Figure 2.7
Locating the gold reef (Yellow bands)
(Author, 2016, adapted from Pieterse, 2015)

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2.2.3_THE EXPONENTIAL GROWTH OF JOHANNESBURG

People from all over the world flocked to Johannesburg in search of wealth. The area's rich gold ore, favourable climate, and most importantly, available unskilled labour, rendered it a modern day El Dorado. Johannesburg's phenomenal growth is evident in its transformation from the tented camp of April 1886 to a shimmering settlement of impermanent corrugated iron structures in September 1886, to a fully-fledged town of permanent multi-storey brick buildings in 1890 (South African History Online, 2016). In under a decade, Johannesburg's phenomenal population had grown to over 102 000 people of all races. By 1900, Johannesburg was the largest city in Southern Africa and its principal centre of industry, commerce, and finance.



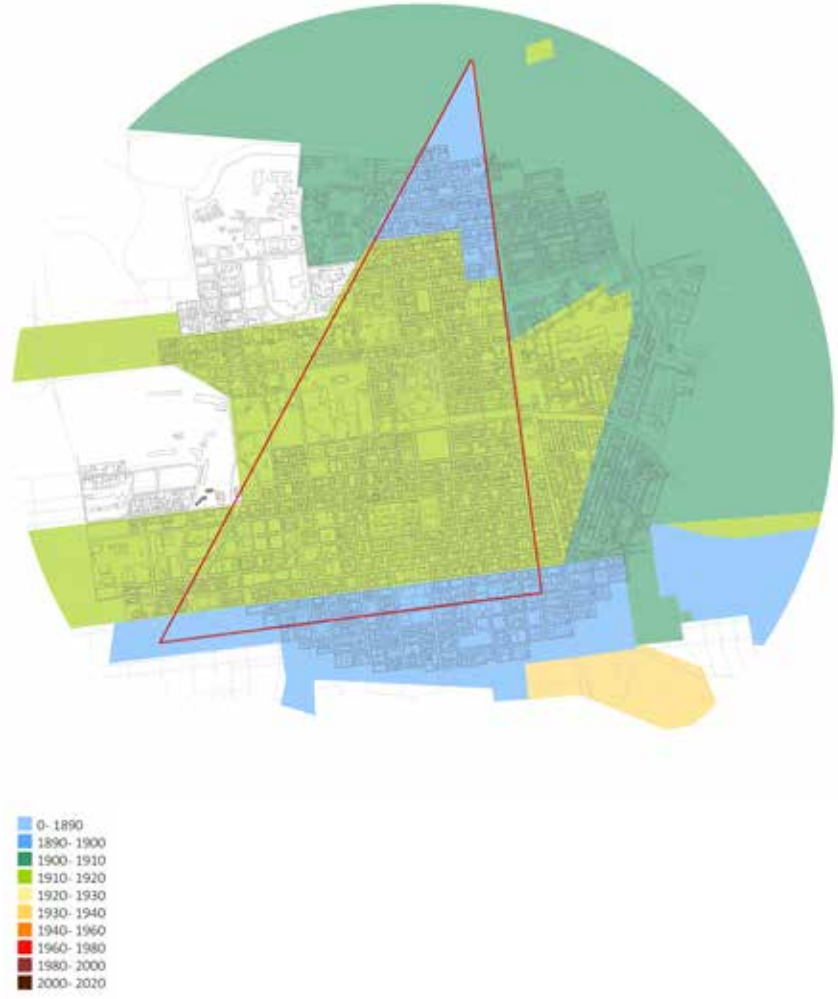


Figure 2.8
Graphic illustrating Johannesburg's settlement and development (Author, 2016, adapted from Pieterse, 2015)

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2.2.4_APARTHEID: SEGREGATED JOHANNESBURG

The tangible and intangible character of Johannesburg reflects over a century of racially driven social engineering that reached its pinnacle under the National Party's apartheid regime. The physical form of Johannesburg emerged from the outset with numerous divisions between communities, as the early mining camp was separated based on racial, social, and economic lines. The gold reef and ridge, as well as the rail and road systems tangibly divided north from south. The Apartheid planners exploited these physical barriers in Johannesburg's landscape to racially segregate people. The Group Areas Act of 1950 allocated racial groups to particular residential and business sections in urban areas (South African History Online, 2016).

Although the Act was repealed in 1991, the remnants of apartheid planning remain etched upon the urban landscape of Johannesburg. The physical manifestation of Johannesburg's painful heritage is scattered across the city, and in order to come to terms with the past and move forward to a unified future, rethinking the built environment should be considered a vital element in the tangible and intangible stitching of the city.



Figure 2.9
Racial Segregation of Apartheid Planning (Pieterse, 2015)

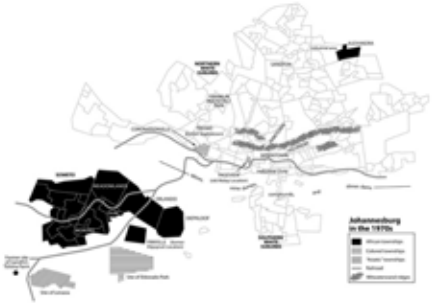


Figure 2.10
The rigid racial zoning of Johannesburg after the forced removals (Pieterse, 2015)

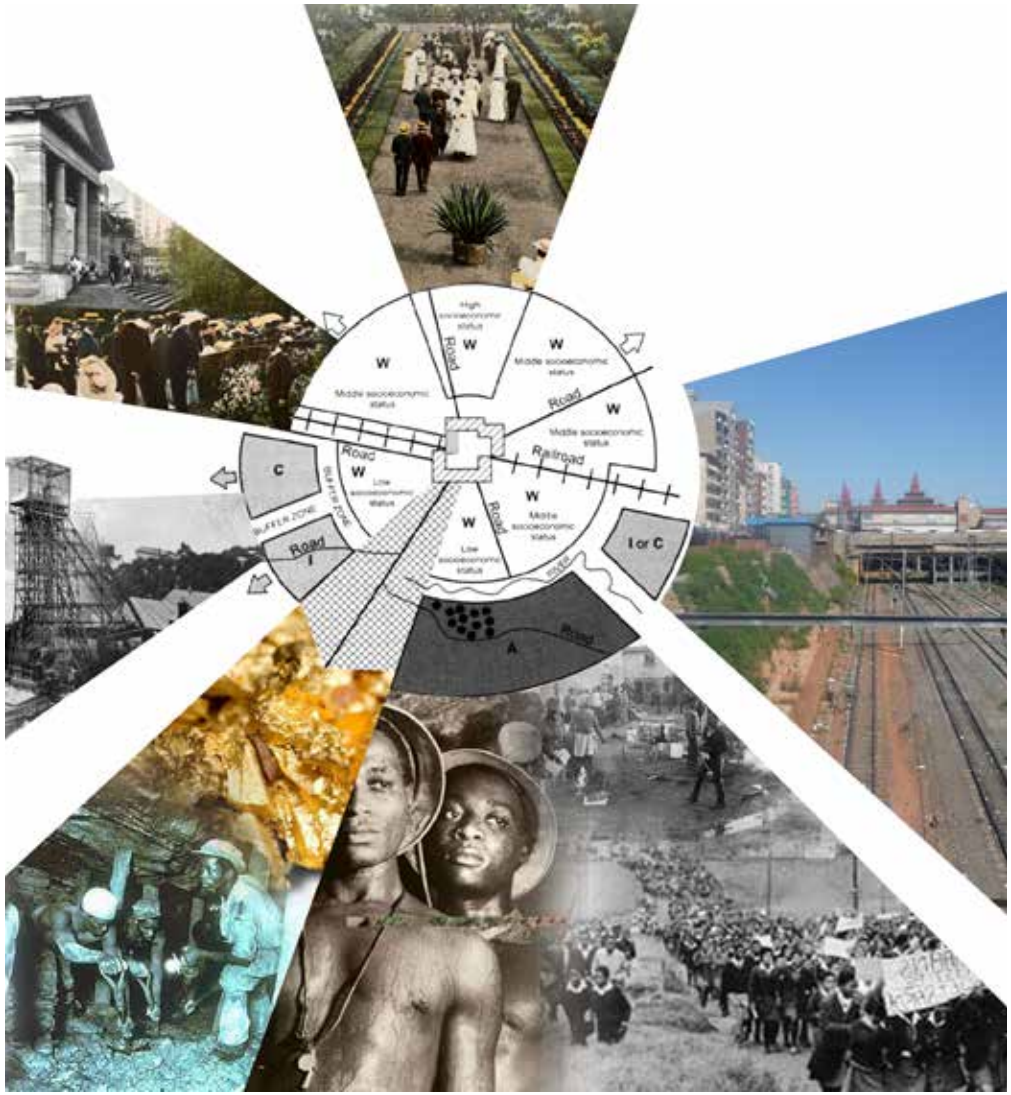


Figure 2.11
Collage indicating the different sectors of Apartheid Johannesburg (Author, 2016)

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2.2.5_JOHANNESBURG TODAY

Today, Johannesburg remains South Africa's premier city and the preferred destination of young professionals and entrepreneurs. The City is the primary industrial and financial metropolis of South Africa. Johannesburg is a dense, dynamic, and intriguing urban environment that is currently emerging from a period of decline through multiple efforts of the government to rebrand the area as a World Class African City. Johannesburg is a contested city, with tangible and intangible divisions between its multi-cultural and multi-racial population.



Figure 2.12
Collage of photographs from Johannesburg's past
(Author, 2016, images from Museum Africa Archives)



Figure 2.13
Collage of photographs of present day Johannesburg
(Author, 2016)

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2.3 - BIOPHYSICAL ANALYSIS

2.3.1_GEORGRAPHY

2.3.1.1_Climate

Johannesburg is located on the Highveld plateau of South Africa at an elevation of 1,753 metres, and has a subtropical highland climate. OR Tambo International Airport (2016) provides a great summary of the climate for visitors of the region:

'The city enjoys a sunny climate, with the summer months (October to April) characterised by hot days followed by afternoon thundershowers and cool evenings, and the winter months (May to September) by dry, sunny days followed by cold nights. Temperatures in Johannesburg are usually fairly mild due to the city's high elevation, with an average maximum daytime temperature in January of 25.6 °C, dropping to an average maximum of around 16 °C in June. The UV index for Johannesburg in summers is extreme, often reaching 14-16 due to the high elevation and proximity to the equator. Winter is the sunniest time of the year, with mild days and cool nights, dropping to 4.1 °C in June and July. Regular cold fronts pass over in winter bringing very cold southerly winds but usually clear skies. The annual average rainfall is 713 millimetres, which is mostly concentrated in the summer months (OR Tambo International Airport, 2016).'

2.3.1.2_Hydrology

Johannesburg does not have any rivers, but its streams are contributories of the Limpopo and Orange Rivers. The springs ('fontein' in Afrikaans) in the area gave the farms their names, such as Braamfontein, Rietfontein, and Randjesfontein.

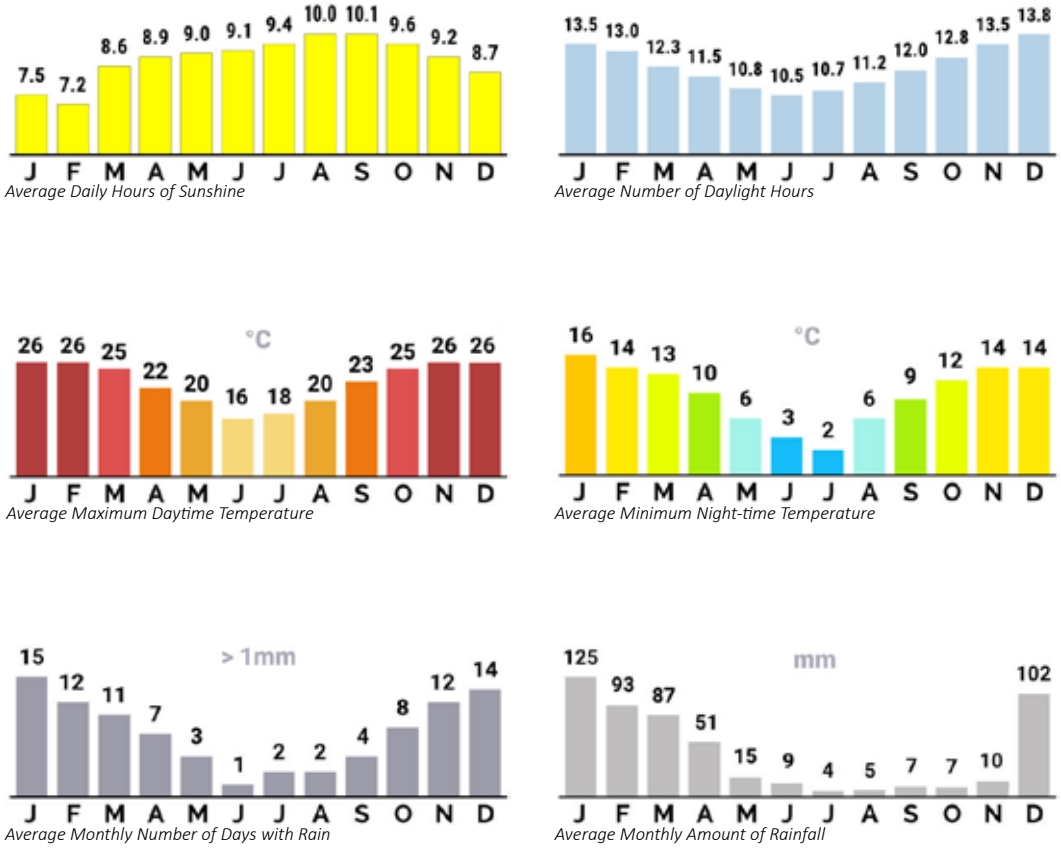


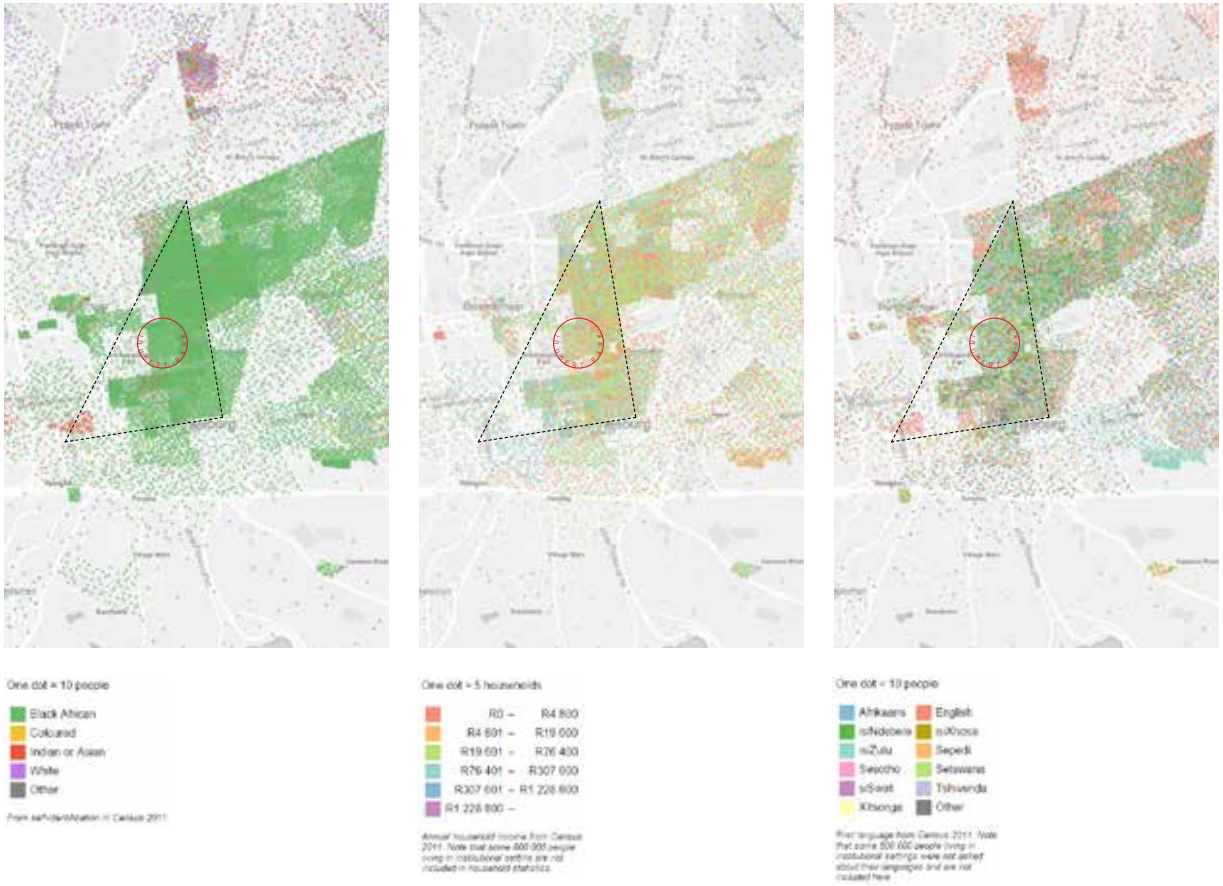
Figure 2.14
Climate data for Johannesburg (OR Tambo International Airport, 2016)

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2.3.2_DEMOGRAPHICS_CENTRAL JOHANNESBURG

The following demographic analysis is compiled from census data of Central Johannesburg conducted by Statistics South Africa (2011).

Central Johannesburg has an estimated population of over 957,000 people, of which 74,6% are of a working age, making it South Africa's largest city-living population. Matric certificates are held by 38% of residents and 31% are able to speak English, providing an international advantage. Most residents are single Black African people and the sex distribution of inner-city Johannesburg is even. The results of the census illustrate a young, capable population with the ability to contribute to the development of Johannesburg's economy.



Dot Distribution of Johannesburg's Races

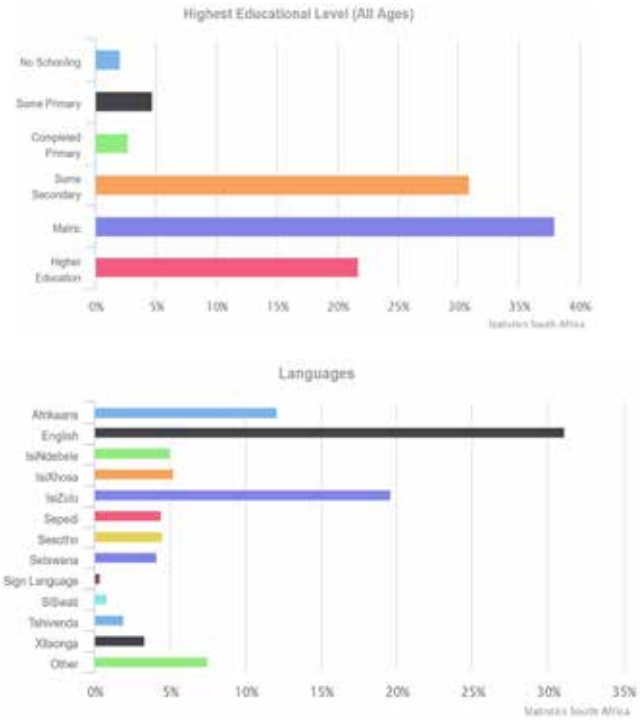
Dot Distribution of Johannesburg's Household Income

Dot Distribution of Johannesburg's Languages

Figure 2.15
Dot distribution maps of Johannesburg's demographics (Author, 2016, adapted from Frith, 2011)

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Characteristics	
Total population	957,441
Young (0-14)	20,9%
Working Age (15-64)	74,6%
Elderly (65+)	4,4%
Dependency ratio	34
Sex ratio	102,4
Population density	2860 persons/km2
No schooling aged 20+	2%
Higher education aged 20+	21,7%
Matric aged 20+	38%
Number of households	300,199
Average household size	2,8
Female headed households	36,5%
Formal dwellings	92,8%



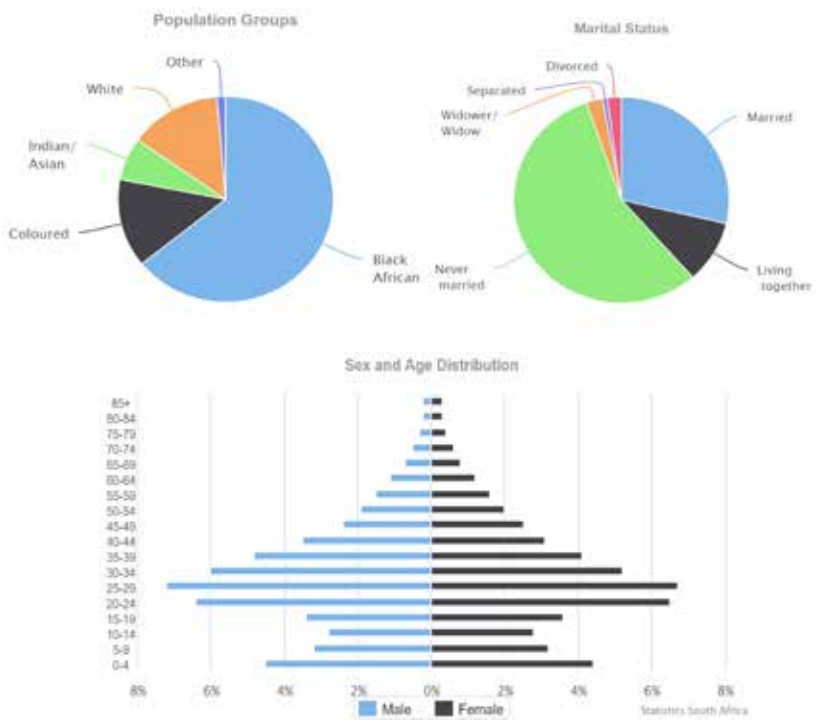


Figure 2.16
Graphs illustrating Johannesburg's demographics (SA Statistics, 2011)

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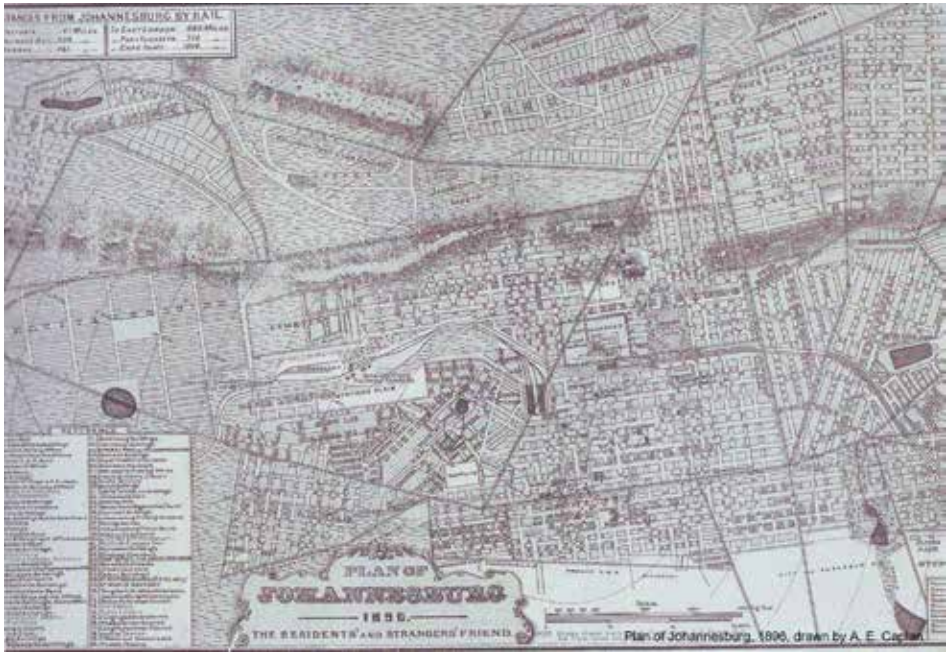


Figure 2.17
Plan of Johannesburg, drawn by A. E. Caplen (1896)



Figure 2.18
Pictorial map by Gloria Hodge (1893) showing Joubert Park

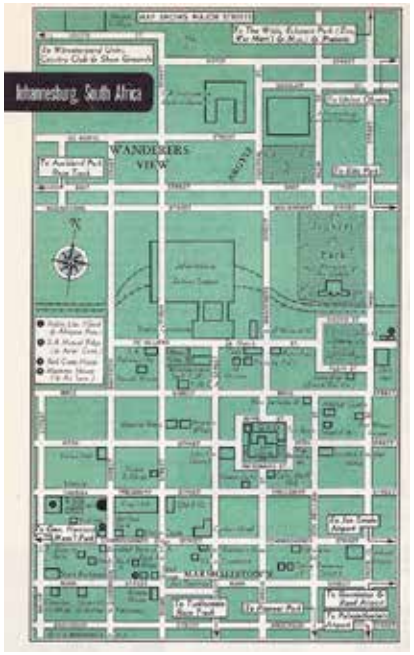


Figure 2.19
Visitors map of central Johannesburg (CS Hammond and Co, 1950)

© University of Pretoria

2.4 - THE JOUBERT PARK PRECINCT

2.4.1_AN INTRODUCTION

In 1887, Mining Commissioner Jan Eloff applied for a park in Johannesburg, which was supported by the Executive Council, who granted Johannesburg, the 17.8 acres of ground that constitutes Joubert Park today, named after Anglo Boer War general, P.J. Joubert. Joubert Park was formally laid out in a Victorian fashion by G.S. Burt Andrews in 1892, who later became Town Engineer, after winning a competition (CBS Architects, 2003). From the outset, Joubert Park provided residents with a repose and recreational escape from the harsh industrial landscape.

Joubert Park is a reflection of the Johannesburg's prolific history and has since acquired layers of character over the decades, fulfilling the needs of residents throughout different periods: it has been an oasis, a cultural node, a social space, and a transit hub. It has embodied different identities and remains a significant artefact within the cityscape. Embracing the heritage of the Park provides opportunities for it to reclaim its inherent significance within central Johannesburg and the very urban fabric that it helped create.



Figure 2. 20
Diagram of Johannesburg locating Joubert Park (Author, 2016)

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2.4.2_PHYSICAL CONTEXT

Joubert Park has been a landmark within the urban planning of Johannesburg since its inception. Its position in the centre of the original settlement, as well as its status as the first green oasis in the city, are testaments to its physical significance within its context. Furthermore, Joubert Park lies at the intersection of major public transport networks: Park Station, mini-bus taxi ranks, metered taxis, and the BRT. One can easily connect to any African city through the transport network, meaning that for many people, Joubert Park is one of the first spaces they experience within South Africa.

2.4.2.1_Urban Boundaries

Joubert Park is located in the centre of the Uitvalgrond, the original mining camp of Johannesburg. The suburb of Hillbrow borders the Park and nodes of public significance are in close proximity including the Newtown Cultural Precinct, Ellis Park Sports Precinct, Constitution Hill, UJ Campus, and the Civic Precinct. Therefore, Joubert Park could be integrated into this network of urban nodes.

2.4.2.2_Surfaces

Joubert Park is a combination of soft lawn surfaces and paved pathways. The majority of the vegetation consists of alien species which were commonly planted in Victorian parks, such as Roses, Plane Trees, Fir Trees and various flowering trees. The Park is framed by a pedestrian walkway which is widened on King George Street and accommodates informal trade.

2.4.2.3_Topography

The longitudinal section through Joubert Park and the surrounding urban fabric illustrates that the Park is located in a dip in the topography and is a break from the high-rise buildings around it, reinforcing its identity as an oasis within the city centre.

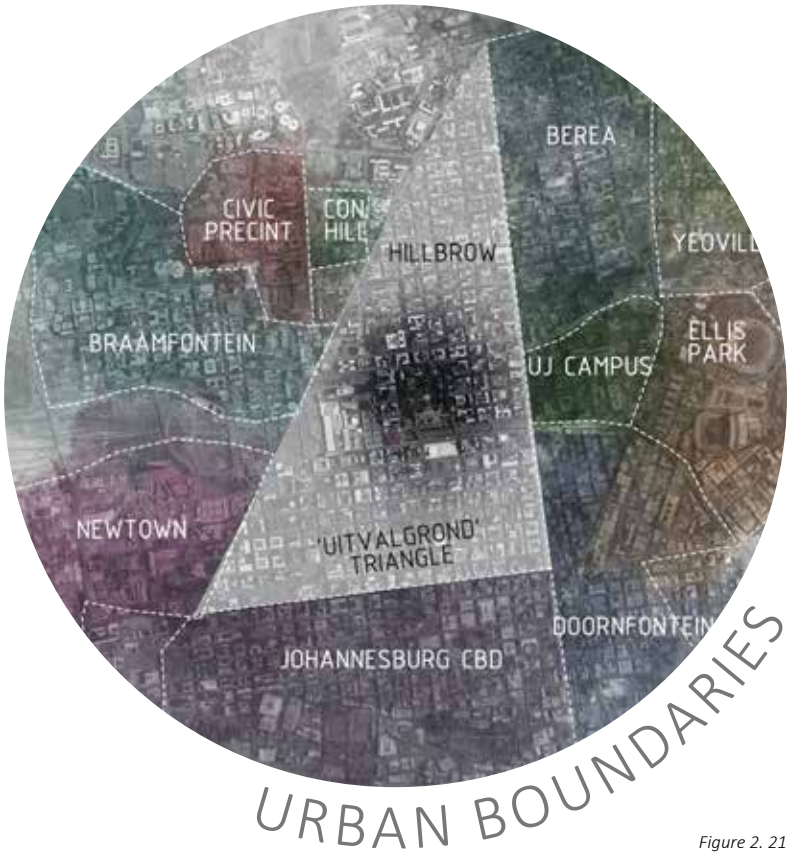


Figure 2. 21
Urban Boundaries (Author, 2016)



Figure 2. 22
Sections through the North-South Axis of Joubert Park's Context (Author, 2016)

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2.4.2.4_Street Elevations & Sections

Joubert Park is framed by tall residential blocks, many of which have small scale retail on the ground floor. The scale of the edges reinforce the natural escape Joubert Park provides within its context. Sections through the bordering streets illustrate boundaries to pedestrian movement, such as busy roads, the BRT, and the train tracks. It is evident that these streets hold potential to be reimagined to integrate the buildings with the Park.

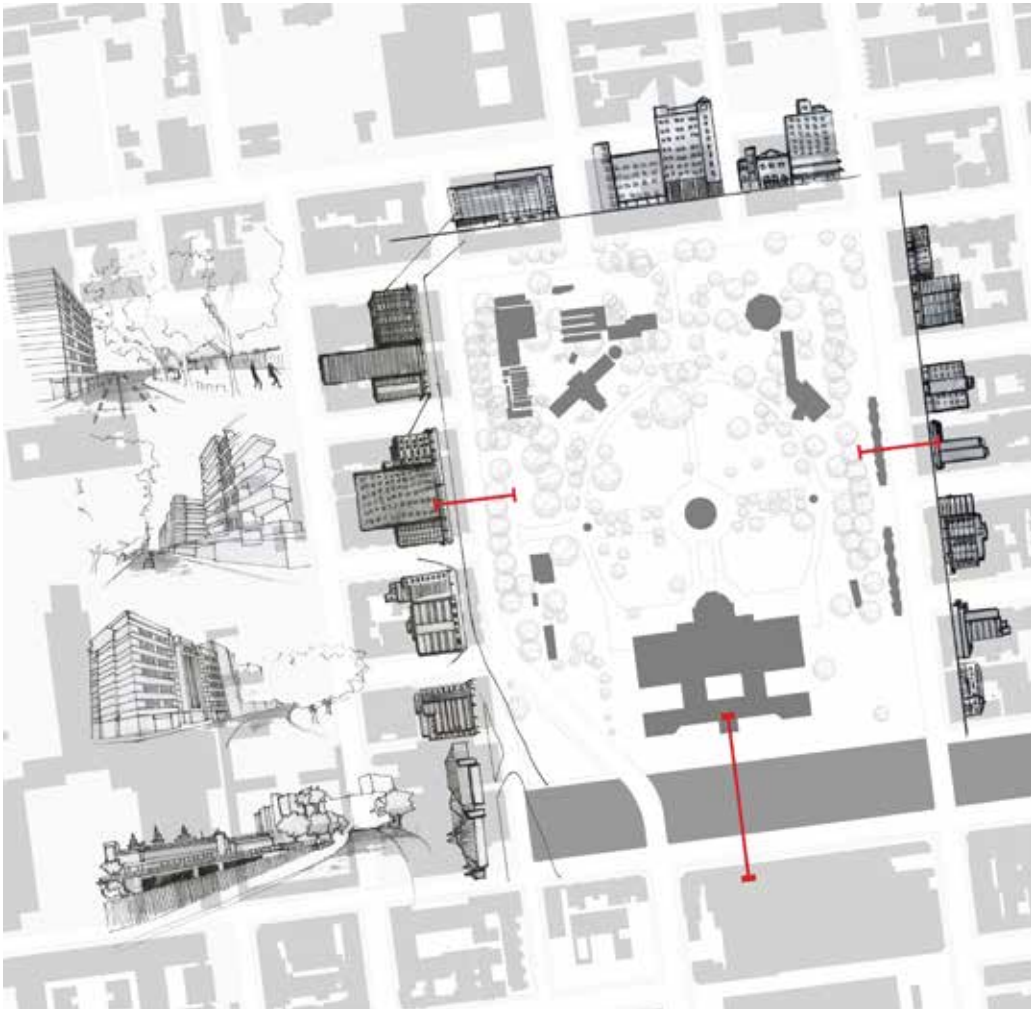


Figure 2.23
Joubert Park Elevation Study (JPG, 2016)

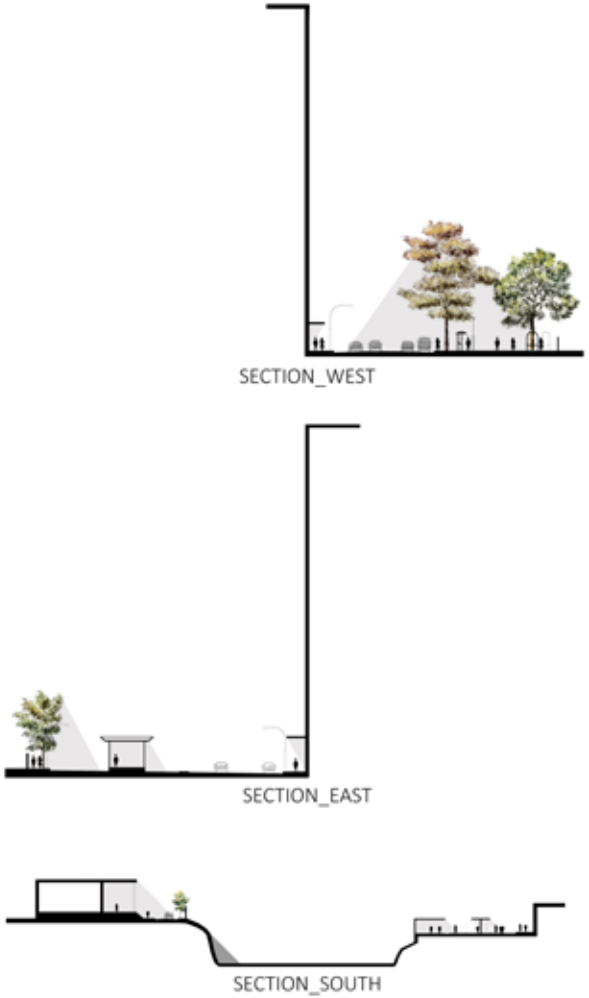


Figure 2. 24
Sections through Joubert Park's street edges (Author, 2016)

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Figure 2.25
Mapping Joubert Park's building use (JPG, 2016)



Figure 2.26
Macro mapping the transportation routes around Joubert Park (JPG, 2016)

2.4.2.5_Building Use

The immediate edges of Joubert Park are residential blocks often housing ground floor retail. Public transport nodes attract people to the area and drive the identity of the precinct currently. JAG is an extraordinary and prominent structure in the landscape which defines the precinct, and yet it is undervalued and lies in the background.

2.4.2.6_Connectivity

A macro analysis of Joubert Park's connectivity illustrates the opportunities for the precinct to use these networks to connect to other public nodes and impact the city beyond its current boundaries. People are able to reach the precinct with ease from all over Gauteng.

Figure 2.29
Photographic observation of Joubert Park (Author, 2016)


JAG's Fence


Adjacent Apartment Block


Conservatory's Fence


Joubert Park Lawn


The Train Tracks

© University of Pretoria



Figure 2. 27
Micro mapping the transportation routes around Joubert Park (JPG, 2016)



Figure 2. 28
Mapping the physical barriers and boundaries of Joubert Park (JPG, 2016)

2.4.2.7_Movement

Joubert Park is an island surrounded by traffic, which cuts it off from adjacent building edges. Pedestrian paths constantly intersect busy traffic routes, as transportation networks dominate the movement channels.

2.4.2.8_Barriers to Movement

The movement of pedestrians is impeded by various boundaries. Within Joubert Park, private areas are fenced off and do not contribute to the public realm, thus contradicting the role of Joubert Park as an accessible public space. Dead edges along the road also create spaces that do not engage with people. Finally, the train track is a massive boundary within the landscape.


King George Street


Park Station Taxi Rank


Train Tracks and JAG


Path in the Park


Joubert Park in the Afternoon

© University of Pretoria

2.4.3_HISTORICAL CONTEXT

Joubert Park has an undeniable tangible and intangible heritage significance. As the Park is over a century old, it has undergone transformations of its identity over time, resulting in its position as a multi-layered archive of the inner city. The Park's existence illustrates the 19th century desire of European immigrants to connect to their homelands. Joubert Park is also the site of important heritage structures: the Conservatory (est. 1906), the Bandstand (est. 1907), and the Johannesburg Art Gallery (JAG) (est. 1915), the first museum of Johannesburg. Most of the trees planted within and along the Park are considered historically significant and are still valued for their shade by patrons of the Park. Joubert Park is a reflection of continued relevant heritage and the adaption of spaces to suit the needs of current residents. However, heritage structures such as the Conservatory, Bandstand, and JAG need to be reassessed to contribute to the new identity of Joubert Park and maintain their historical and contemporary significance.

The timeline illustrates the progression of different elements of Joubert Park which contribute to its contemporary condition. In particular, the decline of the Conservatory, Bandstand, and Johannesburg Art Gallery were analysed.















1887
– Mining Commissioner Jan Eloff applies for a park in Johannesburg (1), which is supported by the Executive Council, who granted Johannesburg what is today the 17.8 acres of ground that constitutes Joubert Park, named after Anglo Boer War general, P.J. Joubert

1888
– Kruger's Park, later Wanderers Grounds, established West of Joubert Park

1892
– A strip along the southern border of Joubert Park is taken for railway lines
– Joubert Park is laid out by G.S. Burt Andrews, who later became Town Engineer, after winning a competition
– Joubert Park is ploughed and planted, a pond (2) is formalised and a fountain (3) installed
– Donations of plants and trees come from all over the world, including the Kew Royal Botanical Gardens

1893
– A locust swarm devastates the flowering plants of the Park

1897
– Drought impacts the Park

1898
– Joubert Park is the 'beauty spot' of Johannesburg (5)
– Joubert Park acquired a conservatory from the Wanderers Club

1904
– Joubert Park is remodelled by A.H. Stirrat to include children's playgrounds (following the ground-breaking ethos of parks for people as opposed to railed off gardens) (6)
– The removal of Eucalyptus and Acacia trees and experimentation with indigenous trees and shrubs
– A floral cloack and carpet garden (7)

Figure 2.30
Timeline of Joubert Park, with a focus on the Conservatories (Author, 2016)

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11


10


9


8


15


14



13


12


18


17


16


21


20


19


24


23


22

1905
– City Council calls for tenders for a new iron conservatory in Joubert Park, as plants in the existing conservatory were suffering due to imperfect accommodation. The estimated cost is £3,000
– Kiosk is built in the Park, but is not successful due to its South orientation (8)

1906
March – City Council authorises construction of a propagating house
June – Cast Iron Victorian Conservatory was constructed (9)

1907
– Bandstand (10 & 11)
– Locast swarm devastates the Park

1909
– Snowstorm devastates the Park

1915 – The Johannesburg Art Gallery (JAG) opens on the southern area of the Park (12)

1938
July – City Engineer's Department allocated £10,000 for the construction of a new timber conservatory for Joubert Park from the specialist architectural firm Messrs. Richardson & Co. Ltd, London

1939
– Construction commenced on the site of the existing Victorian Conservatory, which was simultaneously demolished (13)

1940
– New conservatory is completed (14)
– JAG extension of west and east wings (15)

1986
– Front steps of the conservatory remodelled into a ramp
– JAG addition, Meyer Pienaar Architects (16)

1997
– Lapeng Child and Family Resource Service established (17)
– Park Station Taxi Rank completed (18)

2001
October – CBS Architects appointed to prepare a masterplan and design accommodation for the Greenhouse Project (19)
– The site is walled off from the Park, only accessible through a private gate

2002
– R3 Million is provisionally allocated to the restoration and conversion of the Conservatory by the National Lottery Distribution Trust Fund

2003-2005
– Planting is removed
– Existing steel columns are replaced due to excessive and dangerous corrosion
– Sandblasting of the timber frame
– Existing glass is removed
– Removal of window sections for restoration offsite
– Damaged or rotting timber to be replaced with new sections of Rhodesian teak
– Teak frame is painted white
– All steel members are taken offsite for restoration and cleaning

2004
– Earth Building Completed (20)
– Recycle Centre Completed (21)
– Entrance Completed

2007
– BRT Stop Completed (22)

2010
– Joubert Park is a Fan Park for the 2010 Soccer World Cup (23)

2016
– Joubert Park today is at risk of becoming a taxi storage lot (24)

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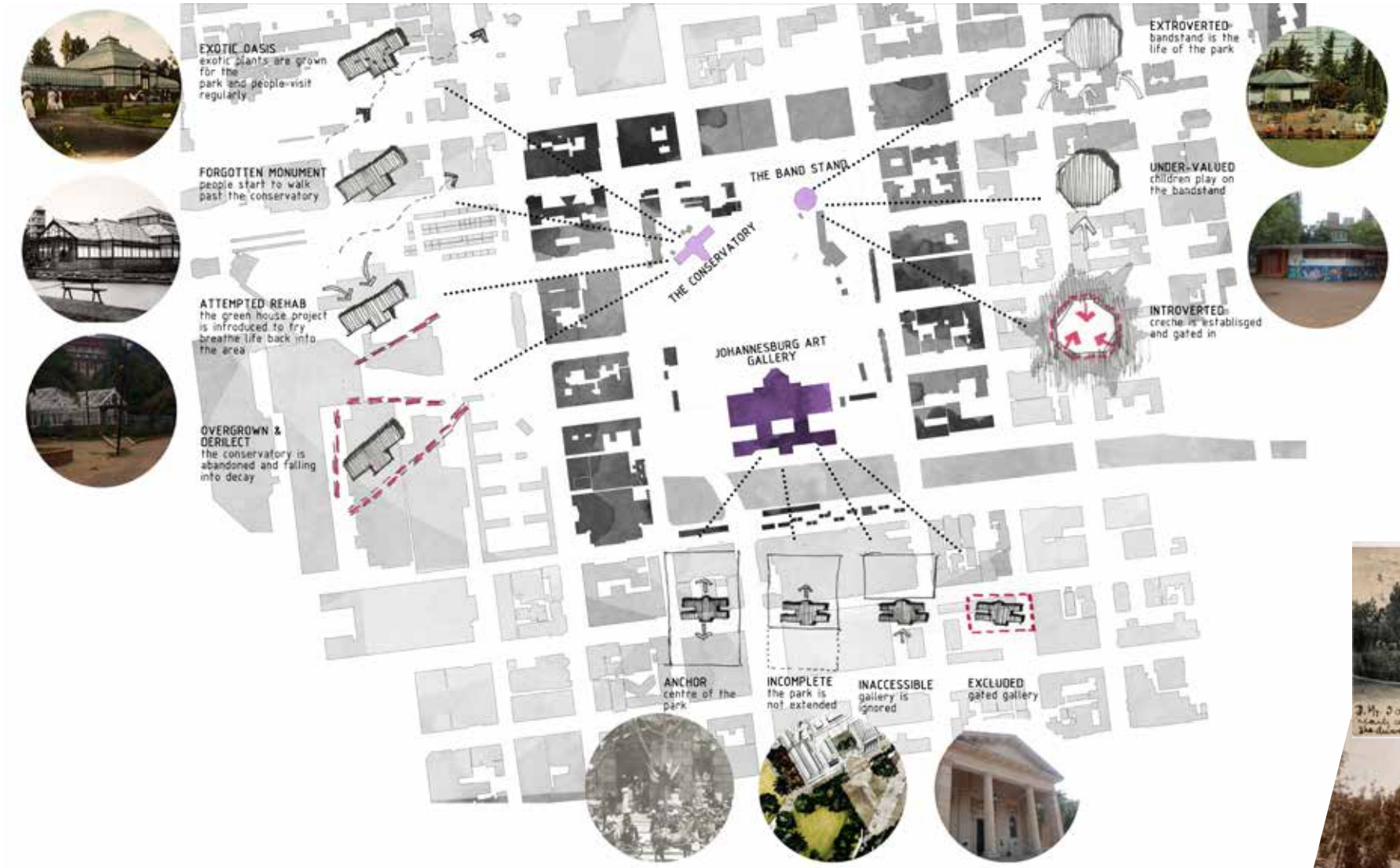


Figure 2.31
The Transformation of Joubert Park's Built Heritage
(JPG, 2016)



Figure 2. 32
Postcards of Joubert Park , early 1900s
(JAG Archives, 2016)

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2.4.3_HISTORICAL CONTEXT (CONTINUED)

It is important to note that the intended layout of Joubert Park in 1915, by Sir Edwin Lutyens, was never fully realised. This is most obviously noticed with the orientation of JAG away from Joubert Park, as it was intended to be the focal connection point between Joubert Park and the Union Ground across the train tracks. However, the Parks were never bridged, and Union Ground was halved with the introduction of a taxi rank in 1997 and consequently demolished to make way for a shopping centre. Thus, JAG's original entrance is isolated, facing the railway lines. Therefore, a new entrance was designed by Meyer Pienaar Architects in 1986 with the aim of integrating JAG with Joubert Park, although this has been considered largely unsuccessful. Joubert Park's historical context is rich, but the layers are fractured and isolated from one another.



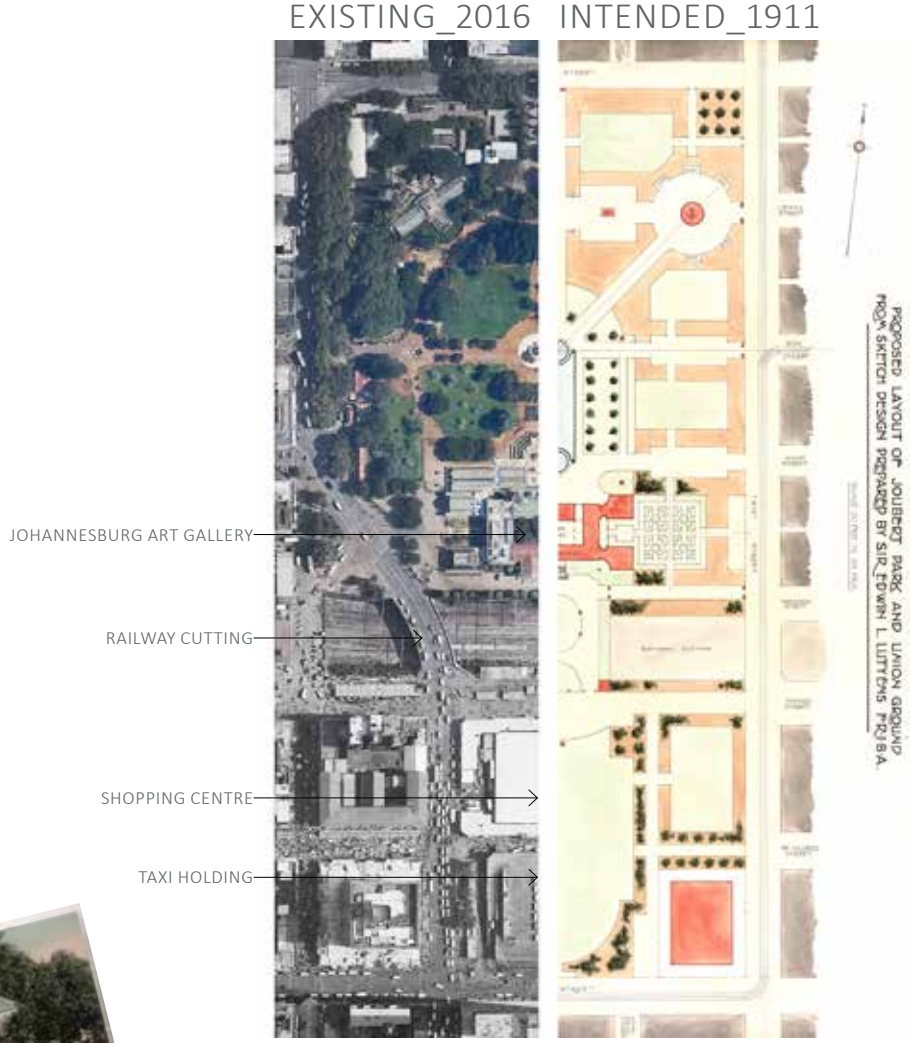


Figure 2.33
Plans comparing the existing fabric of Joubert Park and its intended layout by Lutyens (Author, 2016, adapted from Google Earth Pro, 2016 and Lutyens, 2011)

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2.4.4_SOCIAL CONTEXT

Joubert Park is a recreational space for the residents of central Johannesburg, many of whom live in extremely overcrowded conditions. The giant chessboards in the NW quadrant are constantly occupied by socialising men and on Sundays, dozens of church groups congregate in circles, singing prayers. Couples laze on the grass and the laughter of children at the playground fills the air. King George Street buzzes with informal trade and people having their hair braided while talking with friends. Joubert Park is alive with activity. However, the privatisation of large areas of the Park threatens the social significance of the public space, such as the Greenhouse Project, and Lapeng Crèche. The Park is public, but certain social groups feel threatened and unwelcome, such as people of racial minorities and immigrants (Moronell, 2011).

Joubert Park has various stakeholders which ought to be considered as they define the social context.

STAKEHOLDERS OF JOUBERT PARK

- Those at Leisure
The central use of the lawn is for casual leisure and socialising and should remain unprogrammed

- Children
The playground provides a engaging area for children after school

- The Photographers
Located at each entrance into the Park, these photographers have been the watchdogs of the Park since the 1960s

- The Chess Players
The giant chessboards are a social node and always occupied by men

- Privatised Spaces
Privatised and fenced off stakeholders (Lapeng Crèche, the Green House Project, the Clinic) should be encouraged to reintegrate with the social context or relocated into adjacent buildings of a private nature.

- Drug Users
Drug users are undesirable and create unsafe spaces, thus their ownership of the Park ought to be discouraged

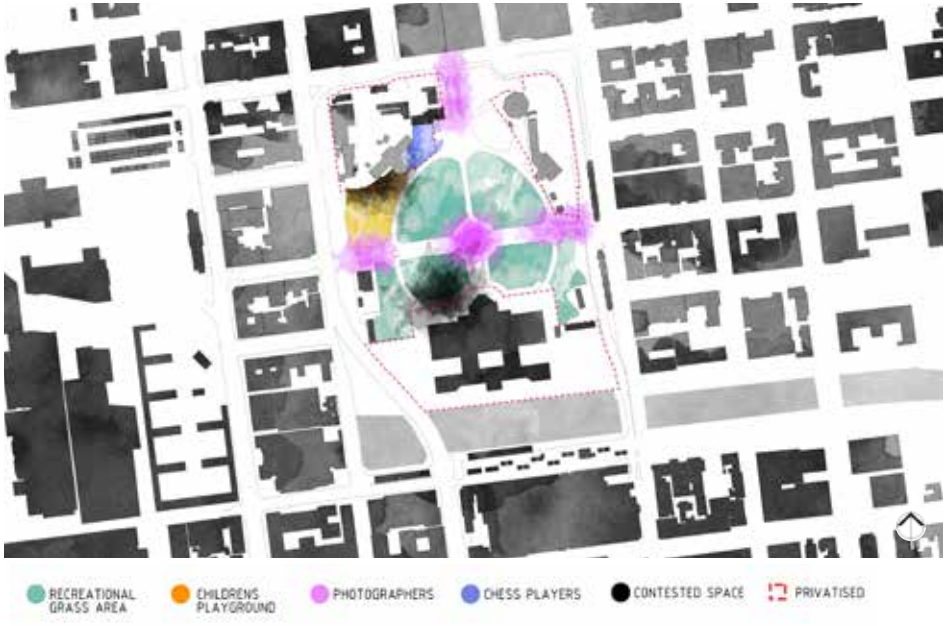


Figure 2. 34
Mapping the Current Stakeholders of Joubert Park (JPG, 2016)


Children Playing in a Dirty Fountain


Sunday Chirch Groups


Inhabitants of the Park


Children's Playground


Giant Chessboards


Chess Clubs

Figure 2. 35
Photographic observation of Joubert Park's Social Environment (Author, 2016)

© University of Pretoria



Figure 2. 36
Mapping the Economic Fabric of Joubert Park (JPG, 2016)

2.4.5_ECONOMIC CONTEXT

The economic opportunities in the Joubert Park Precinct are exciting because the area is so well connected and has a high population density. The economy around Joubert Park is primarily small-scale trade and spaza shops, which could be developed into larger economic systems and networks with encouragement.


Fruit Sales Outside an Entrance


The Linear Market on Noord St


The Linear Market on Noord St


Fashion Sales on King George St


Chicken Kebabs by Park Station


Peanut Roasting on King George St

Figure 2. 37
Photographic observation of Joubert Park's Economic Environment (Author, 2016)

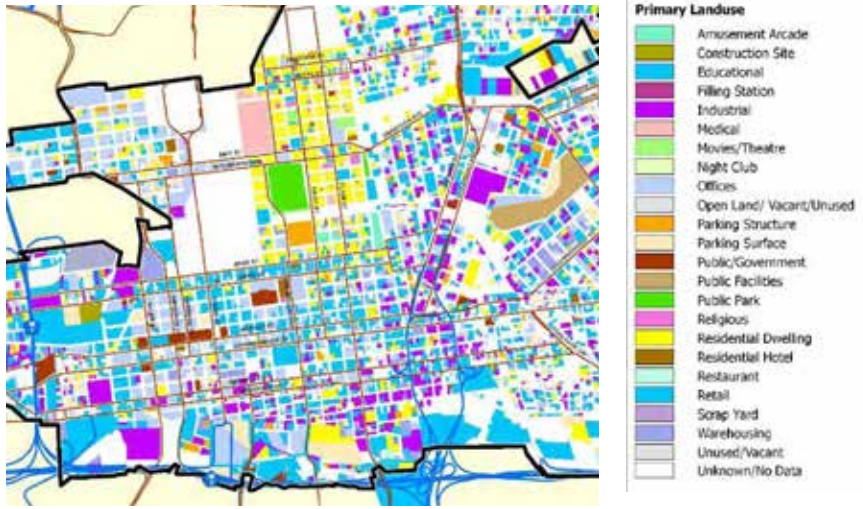


Figure 2. 38
Landuse of Inner City Johannesburg, illustrating the large presence of retail (blue) and Joubert Park (green) surrounded by residential dwelling (yellow) (Ciry of Johannesburg, 2007)

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2.4.6_ CULTURAL CONTEXT

Joubert Park has a history of cultural significance as the location of JAG and a bandstand which hosted concerts and events. Unfortunately, this cultural presence has waned over the years, with JAG becoming isolated from the public realm and the bandstand adapted into a private crèche. However, the new branding of Johannesburg as the Cultural Capital will certainly aim to revive the Park as a cultural node by reactivating JAG and engaging the diverse cultures of people residing in the area. Joubert Park once held musical performances, art exhibitions, and public events, which could be reintroduced to revitalise the area as a place supporting the development of a creative culture.



Figure 2. 39
Mapping the Cultural Activity of Joubert Park (Author, 2016)

Figure 2. 40
Photographic observation of Joubert Park's Cultural Environment (Author, 2016)



Giant Chess Boards



Large TV Screen Up for Events



Singer Selling CDs



Park Photographer



Park Photographer and Client



Park Photographer

© University of Pretoria

2.4.6.1_ Taking it to the Street

Gershon (2015) mapped cultural performance locations for street artists in her dissertation 'Taking it to the Street.' Joubert Park is highlighted as the largest performance zone in her research, but is underutilised despite its prime locality, due to the privatisation of its edges. By reactivating the area with creative activity, the JPG believes that Joubert Park has the potential to contribute to Johannesburg's identity as the Cultural Capital.



Figure 2. 41
Performance Zone Map (Author, 2016, Adapted from Gershon, 2015)

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2.4.7_CONTEXT OF JOUBERT PARK IN THE NETWORK OF PUBLIC SPACE

Joubert Park fits within a network of Johannesburg's public spaces. A comparison is drawn between Joubert Park and three other public parks of Johannesburg. By observing how these spaces work, one can begin to understand the position of Joubert Park within the larger context of park typologies.

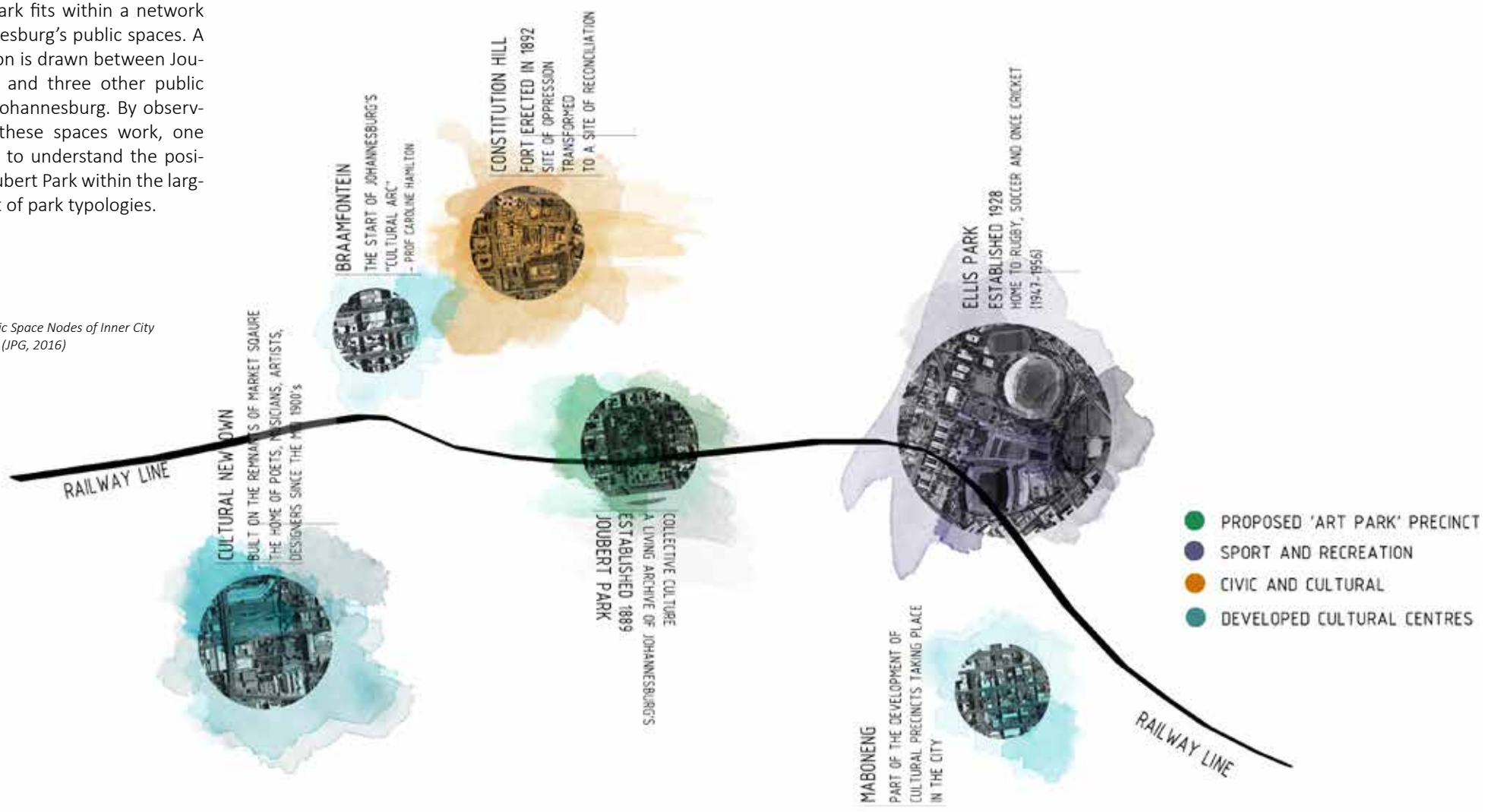


Figure 2. 42
Mapping Public Space Nodes of Inner City Johannesburg (JPG, 2016)

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2.4.8_STUDIES OF SELECTED CITY PARKS

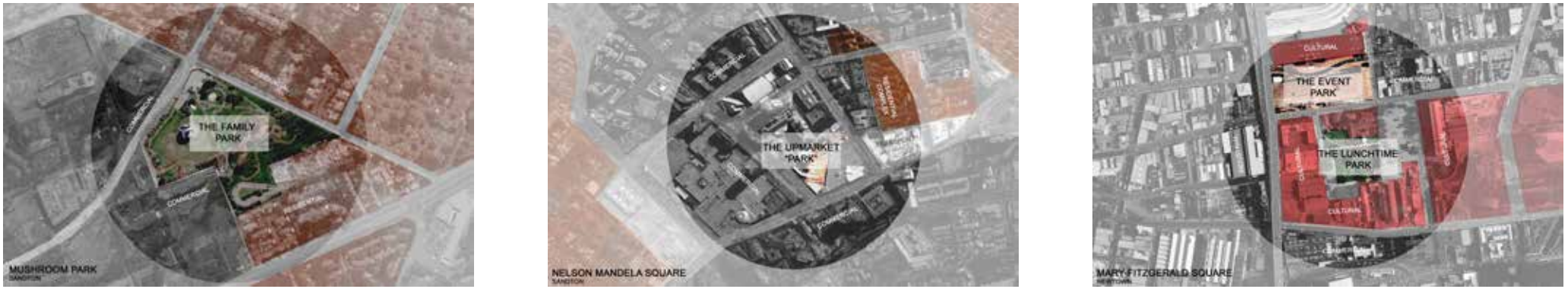


Figure 2. 43
(JPG, 2016)

2.4.7.1_Mushroom Park

Mushroom Park is located in the commercial area of Sandton, with businesses bordering it on the east and upper class residential developments on the west. On weekends, the Park is a social space and during the week children are sometimes found playing on the jungle gym after school. However, the surrounding traffic often isolates the Park from its context and it does not reach its full potential as a public space. Mushroom Park and Joubert Park both fulfil social functions within dense urban areas, but Joubert Park accommodates a much higher volume of people. As both parks are surrounded by apartment blocks, they serve as gardens for residents. This role is characteristic of city parks and ought to be encouraged and celebrated. Mushroom Park may function better if the street edge was more pedestrian friendly and integrated with its commercial and residential context, much like the conditions present in Joubert Park.

2.4.7.2_Nelson Mandela Square

Nelson Mandela Square is a hard surface urban square in Sandton devoted to specific recreational purposes. The Square's layout recalls European piazzas with restaurants facing towards a central fountain and a library located on the edge. The Square is consumer driven and very popular for tourists photographing the Nelson Mandela statue and families and friends shopping or eating out. Like the Sqaure, Joubert Park is surrounded by commercial activity, albeit of a different kind. Spaza shops and markets appeal to the locals of Joubert Park while high end fashion and facilities attract Sandton residents. This illustrates the importance of relevant edges to the successful making of space in an urban park.

2.4.7.3_Mary-Fitzgerald Square

Located in Newtown, Mary Fitzgerald Square is in close proximity to Joubert Park and both public spaces are bordered by museums: Museum Africa and JAG respectively. However, the hard surface Square is significantly different to the soft surface Park which accommodate different demographics. Newtown is profiled as a cultural hub and its zoning is primarily cultural, commercial and industrial where as Joubert Park is bordered by residential development. Mary-Fitzgerald Square is unsuccessful as an everyday space, with barely any trade or activity during the week. On the weekend, it is able to perform successfully as an event space for concerts and markets. Joubert Park is primarily a park for everyday activities, providing a relaxed environment for users.

The analysis of the above public spaces illustrates the importance of integrating public space within its context by generating edges that respond to and define a successful park without overpowering the space. These public spaces demonstrate how commercial, residential, and cultural contexts, which are also present around Joubert Park, can be used to generate diverse public spaces combining soft and hard landscapes to accommodate various users and activities throughout the week.

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2.5_THE NARRATIVE OF JOUBERT PARK'S IDENTITY

As the dissertation has a heritage orientated focus, understanding the changing identity of Joubert Park is of vital importance to gain insight from the past and understand what the predicted future is and the role of heritage fabric and memory. Joubert Park is a founding space of Johannesburg and a reflection of its complex transformation from an informal mining camp into a contested cosmopolitan city. Joubert Park's identity began as an oasis acquiring the layers of cultural enlightenment and social exploration. Joubert Park experienced a lost, unclaimed identity after apartheid and is now a transit hub, its presence dominated by trains, taxis, cars, and busses. If transport continues to encroach on the Park, the future could be a place with a completely forgotten identity, a new parking lot or taxi rank in the inner city. The past identities of Joubert Park and the rich heritage behind them have the potential to be mobilised to define the Park today and integrate it as an important public space worth celebrating, following this, an understanding of the narrative of Joubert Park is vital.

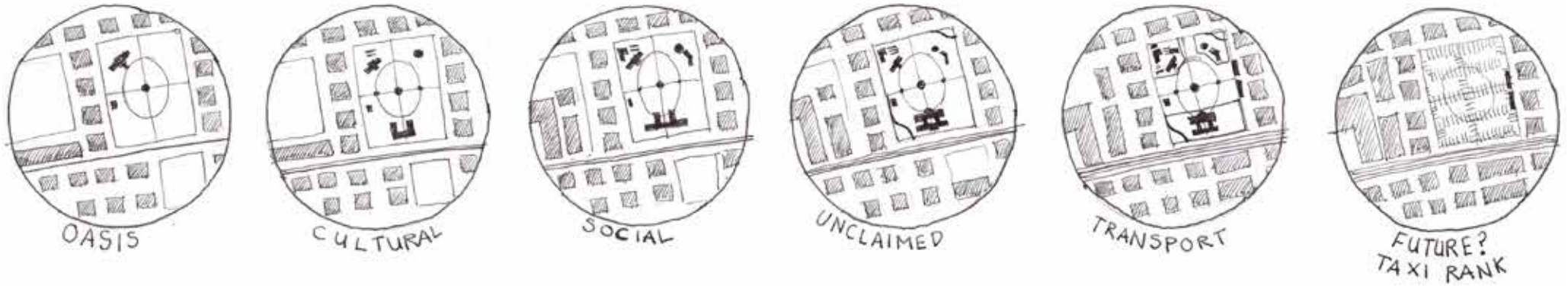


Figure 2.44
The transformation of Johannesburg's Identity and Fabric (Author, 2016)

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2.5.1_ IDENTITY 1_ OASIS
1887...

Joubert Park's first identity was that of an ordered Victorian park, developed as an oasis within the mining town of Johannesburg. The Park was filled with exotic plants carefully arranged to create a spectacular natural artwork. The Victorian Conservatory was introduced to the Park to cultivate exotic vegetation and gifts of plants were received from various places, including Kew Gardens of England. The Park attracted wealthy residents who bought property overlooking the piece of paradise.



People longed for an escape
within Johannesburg's dusty
mining town,
And so Joubert Park was
conceived, a layout for a
Victorian oasis put down.
A place for a stroll along pruned
and planted walkways, a
colonial connection,
An ornamental Conservatory
for exotic plants requiring
protection.
The epitome of class under the
colonial guise,
The jewel of the city, its
paradise.

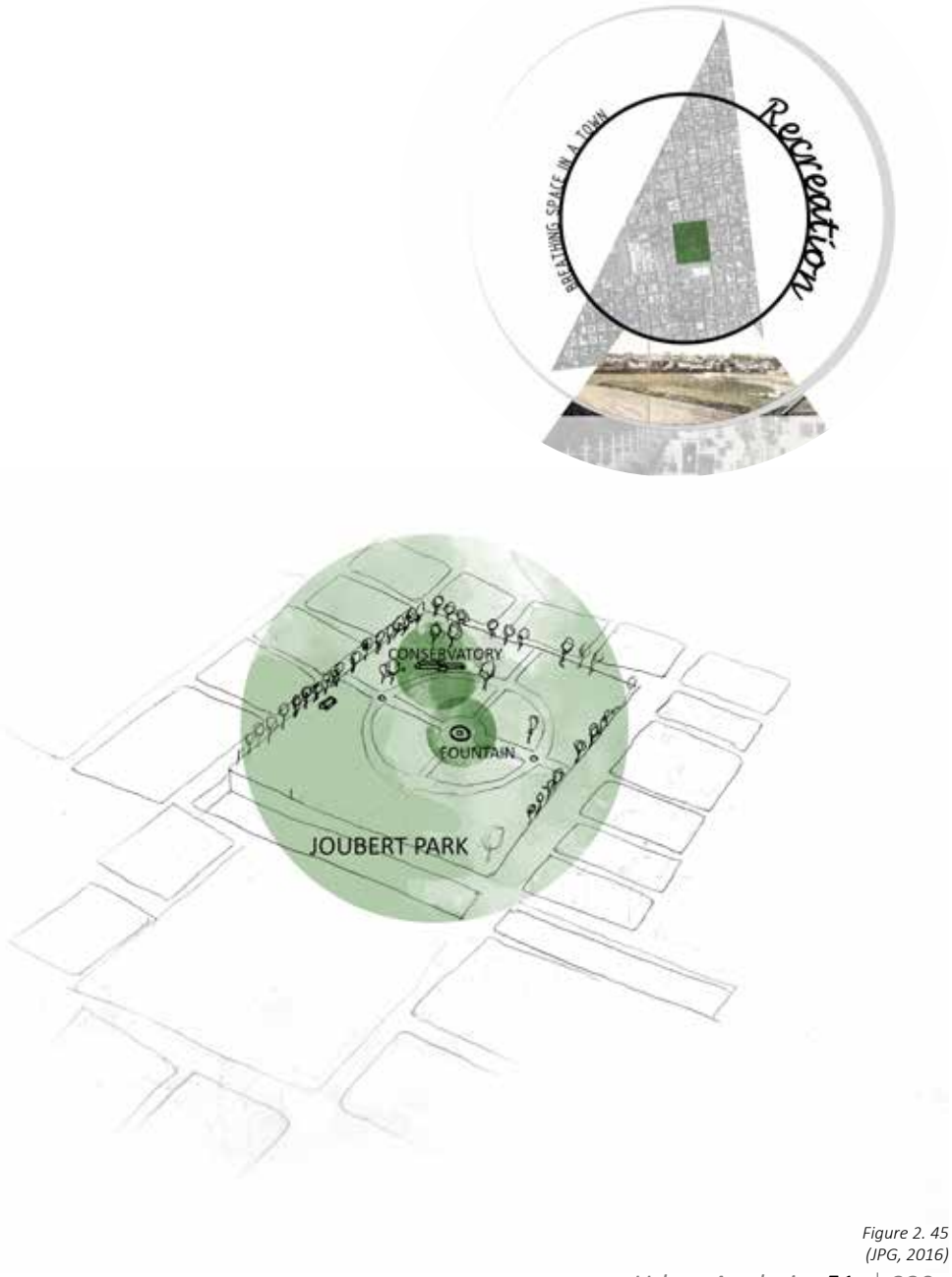


Figure 2. 45
(JPG, 2016)

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2.5.2_ IDENTITY 2_CULTURAL ENLIGHTENMENT 1915...

Joubert Park's identity evolved with the introduction of the Johannesburg Art Gallery and the Bandstand. The cultural nature of these interventions attracted visitors to the Park for reasons beyond relaxed leisure. Concerts were hosted and the Park became a place for events, giving it a new dynamic quality.



If Johannesburg was to be a civilised place, where was the culture of the Western world reflected?
People needed exposure to the arts, they said, and so a bandstand, and Art Gallery were erected.
Music filled the weekend air,
And little girls played in the gardens with ribbons dancing in their hair.
Ballet and theatrical performances animated the public sphere,
The twinkling Christmas lights of December's nativity scenes drew countless people here.

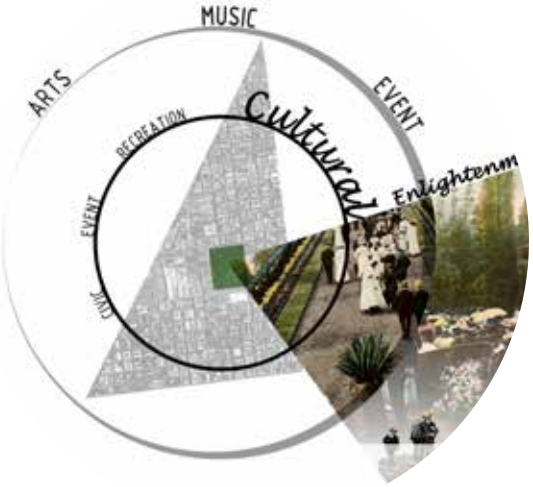




Figure 2. 46
(JPG, 2016)

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2.5.3_ IDENTITY 3_SOCIAL EXPLORATION 1960...

Adapting to changes in the social environment, the Park embraced its central location and role within the social sphere. High rise buildings began to develop the City's skyline as the residential community densified. Communities met in the Park and men played chess on the giant boards. The playground was expanded to entertain children and parties and music concerts and art exhibitions took place in the Park.



The sixties arrived with a bustling social scene and high-rise towers,
Cafés, bars, and nightclubs cropped up, with seemingly magnetic powers.
The streets of Joubert Park buzzed with a new energy and sound,
An alternative tattooed crowd, edgy music, and secret habits could now be found.





Figure 2. 47
(JPG, 2016)

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2.5.4_ IDENTITY 4_UNCLAIMED
1991...

Joubert Park started to decline after 1991 as the community using the public space completely transformed. Upkeep of the Park was forgotten and the unclaimed nature of its identity started to overpower its previous characteristics. JAG's copper roof was stripped and the iron fittings of the Conservatory stolen. JAG, the Bandstand, and the Conservatory lost their public presence and became fenced off in an attempt to protect themselves from further theft and destruction.



In 1991, Apartheid's racial segregation laws fell, a new era coming to light,
Joubert Park was now caught in the middle of an extreme urban blight.
Immigrants and peripheral communities flooded Johannesburg, whose character underwent a transformation.
Panicked residents and institutions of old abandoned their posts fearing alienation.
But now, what of Joubert Park, who would stake their claim?
With uncertain communities now inhabiting the area, gardens deteriorated, losing their once known fame.



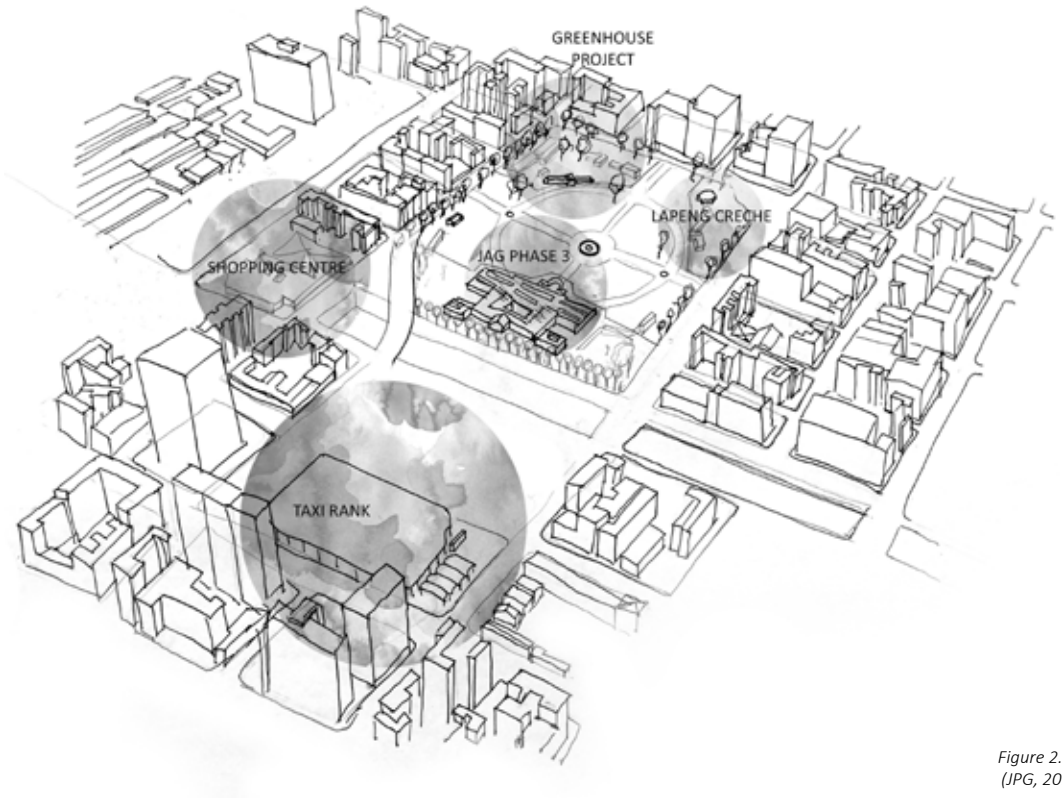


Figure 2. 48
(JPG, 2016)

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2.5.5_ IDENTITY 5_TRANSPORT & COMMUTING
1997 - PRESENT DAY

Joubert Park is now defined by the various transport networks surrounding the public space. The majority of users commute through the Park between trains, taxis and buses instead of lingering. Roads have eaten into the Park, which is threatened to be converted into a taxi rank.

The Park's identity has transformed from that of an extraordinary place to a space of the everyday that is quite disconnected from its heritage. Resolving the fragmented nature of the space is vital if it is to survive as a valued Park in the inner city.



Joubert Park is now an island in a hub of transportation,
Its rich heritage shadowed by taxis, buses, cars, and a train station.
The homeless have made the park their home and drug addicts linger in the corners dark
Hooting taxis, commuting people, and informal trade now define the once elite Park.
Everyday mundane rituals exist in a place with an extraordinary past,
What will become of Joubert Park, will its legacy last?



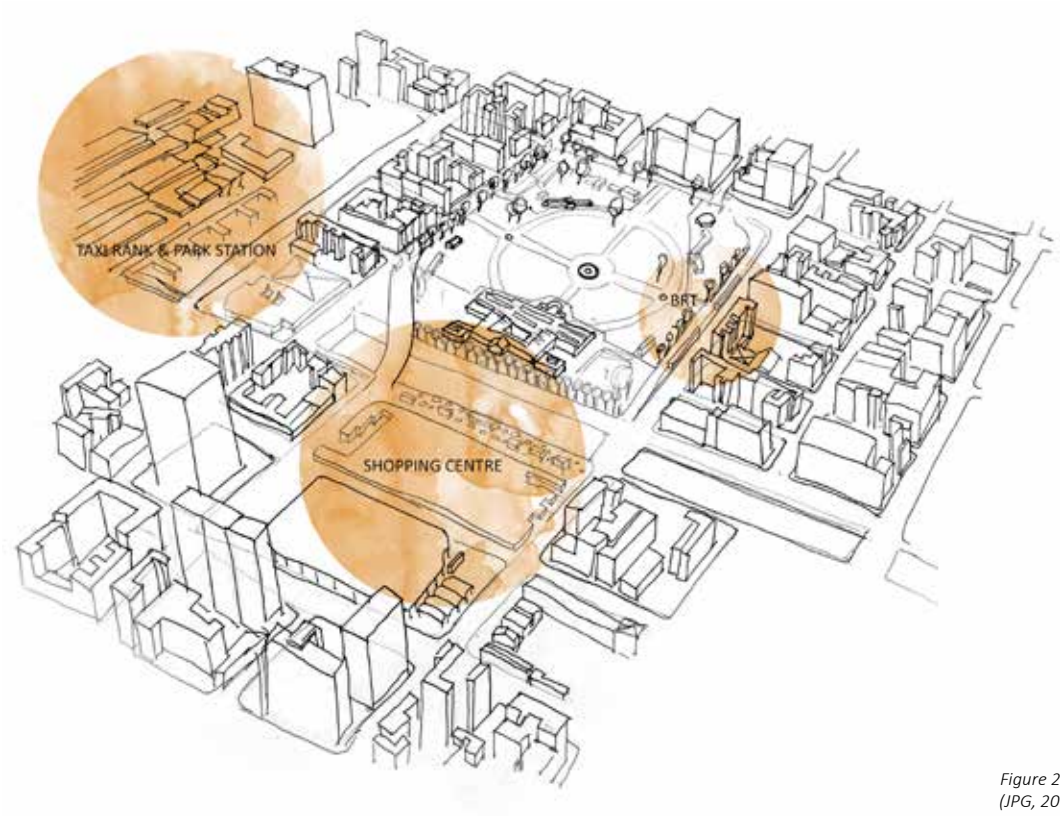


Figure 2.49
(JPG, 2016)

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2.6- SWOT ANALYSIS

JPG conducted a SWOT analysis of Joubert Park, considering the positive and negative qualities of the site.

Figure 2. 50
(JPG, 2016)

2.6.1_STRENGTHS



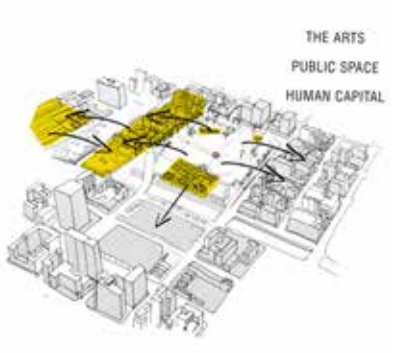
- Connectivity to multiple transportation networks: Park Train Station, Gautrain Station, Minibus Taxis, Metered Taxis, Bus Rapid Transport, and vehicular.
- The availability of open green space within the dense urban context.
- The presence of high-density residential buildings, and therefore a large number of stakeholders.
- A Community Crime Watch unit patrols the area to make the Park a safer environment to be enjoyed by all.

2.6.2_WEAKNESSES



- Privatisation of the public space of the Park, such as fences around JAG, the Conservatory, the Clinic, and the Lapeng Crèche.
- Physical barriers prevent free pedestrian movement, especially the lowered train tracks, the BRT stop blocking a major entry point, and the roads congested with traffic.
- Dead edges on Wolmarans Street and many of the ground level facades of buildings which don't interact with the street.
- Social ills in the park such as exclusion and segregation of stakeholders.

2.6.3_OPPORTUNITIES



- The presence of heritage buildings which could be appropriated to serve contemporary functions and enrich the space with historical meaning.
- The dense human capital in the area could be mobilised to strengthen the economy of the area and enliven spaces with cultural diversity.
- The presence of JAG creates the opportunity to interact with the arts in the Park and facilitate the generation of a new audience who appreciates the arts.
- Joubert Park is a highly accessible public space in the inner city which has the potential to become a node of cultural, economic, and social activity.

2.6.4_THREATS



- Joubert Park's boundaries are being encroached upon by transportation networks, and is under threat of being readapted as a taxi rank.
- Increased privatisation of Park space threatens its role as a public breakout area for all residents.
- Dead edges around the Park threaten the activity of the streets and fragment the relationships between the elements of the public realm.
- The community of the area is in a constant state of flux, resulting in a lack of invested ownership of the space.
- Despite police presence and the Community Patrol, Joubert Park experiences high crime rates, involving theft and assault.

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Figure 2.51
Jaco van den Heever (2012), Looking East

2.7 - CONCLUDING STATEMENT

The changing identities and characteristics of Johannesburg and Joubert Park have shaped the contemporary condition of a fractured and somewhat contested urban environment. The tangible and intangible characteristics of space are testament to Joubert Park's palimpsest, heritage, and identity. Understanding these dynamics informs the development of a cognisant urban vision developed by JPG (the Joubert Park Group), outlined in the following chapter.

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Figure 3.1
(Author, 2016)

CHAPTER 03

URBAN VISION & FRAMEWORK

Chapter 3 outlines the urban visions of JPG for inner-city Johannesburg and Joubert Park. Macro and micro scale frameworks are proposed aiming to drive the urban vision and provide contexts for individual architectural interventions, which draw from the vision and contribute to its success.

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3.1 _THE URBAN VISION

3.1.1_NARRATIVE

Johannesburg: a melting pot of cultures and people whose energy and passion create a city that is alive with possibility. Walking the streets is a journey of the senses: the smell of roasting peanuts on the street corner, the sound of street musicians and the vitality of the dancing crowd, the street vendors beckoning you to purchase their goods, the dappled light filtering through the century old trees lining the streets that have existed since Johannesburg's beginning. Drawing on the existing energy of this incredible city, amplifying it, supporting it, has the possibility of igniting the area with a unique identity that will drive it forward towards a bright future as the Cultural Capital of South Africa.

Joubert Park lies in the centre of Johannesburg's origin. The first place of escape from the mines, the first element of social life within an economically driven environment. A place of play, a place of learning, an oasis, Joubert Park remains vital within its community, but it is slowly being eaten away. The Park is an island encircled by encroaching transport: threatened by an expanding taxi network, BRT routes, and the needs of the train station.

The Joubert Park Group (JPG) envisions Joubert Park as a cultural node within the city, truly representing and providing for its local population. Imagine a Park which inspires inhabitants to think innovatively by mobilising the arts in the urban planning. Imagine a place where people can engage with one another and express themselves through interaction with the arts. Imagine the music, the energy of debate, JAG spilling out into the public realm and all the possibilities stemming from this



Figure 3. 2
(Streetwires, 2016)

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3.1.2_JOHANNESBURG: THE CULTURAL CAPITAL OF SOUTH AFRICA

In 2007, the City of Johannesburg published an Inner-city Regeneration Charter, identifying critical issues of stakeholders and proposed solutions, with the vision of Johannesburg's Inner-city as a people-centred, accessible dynamic city that works and celebrates cultural diversity. Johannesburg's Inner-city is envisioned by the government as the Cultural Capital of South Africa, as it holds a large concentration of cultural initiatives and facilities with the potential to network and become the centre for creative and cultural industries (The City of Johannesburg, 2007). According to the Inner-city Regeneration Charter (The City of Johannesburg, 2007), organisations of the Arts, Culture, and Heritage sector have acknowledged their fragmented nature and the lack of interaction and communication, which has resulted in a lack of coherence.

The Joubert Park Group's Urban Vision aligns with the goals of the City of Johannesburg as it aims to strengthen the creative industry, through utilising existing spatial opportunities, so as to harness the latent potential of the arts for urban regeneration.



Figure 3.3
(JPG, 2016)

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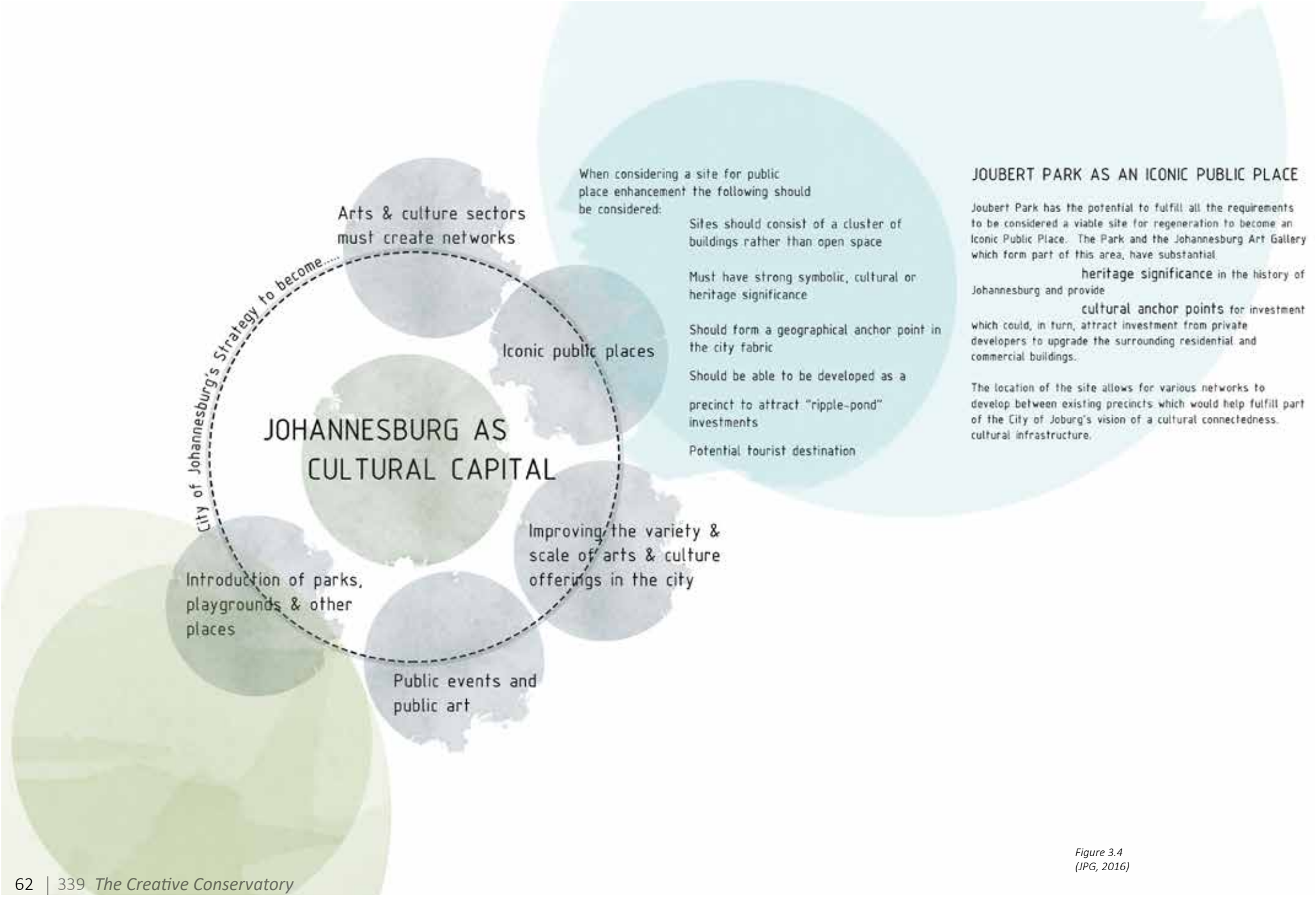


Figure 3.4
(JPG, 2016)

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3.1.3 _ ICONIC PUBLIC PLACES: JOUBERT PARK

According to the City of Johannesburg (2007), Iconic Public Places are key in spatial rejuvenation and are defined as public spaces which focus on building clusters rather than open space, and have strong symbolic, cultural, or heritage significance. These places are key in precinct redevelopment initiatives and act as anchorage points in the urban fabric of the inner-city.

The Joubert Park Group's Urban Vision promotes the Joubert Park Precinct as a priority area and an Iconic Public Place, with the potential to strengthen Johannesburg's identity as the Cultural Capital of South Africa. The Urban Vision considers the role of Joubert Park in the Cultural Capital, drawing on its heritage as an important recreational, cultural, and social public space in the bustling city. The Urban Vision aims to reintegrate the Joubert Park Precinct into the cultural life of the city. Joubert Park is envisioned as an Urban Artscape, drawing on the presence of the Johannesburg Art Gallery, and the dense, dynamic population of the area to reactivate the Park as an important, accessible public space of the city.

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3.2_ EXISTING PROPOSALS FOR INNER-CITY JOHANNESBURG

The following proposals composed for the region are outlined and discussed to identify key issues and important objectives which ought to be addressed by the Joubert Park Group.

3.2.1_THE JDA FRAMEWORK FOR PARK STATION

The Johannesburg Development Agency (JDA) (2011) has developed the Greater Park Station Precinct Urban Design and Heritage Management Framework with the aim of reinventing the area as an inclusive, liveable, safe space. Judgement and analysis of the JDA proposals is relevant to the JPG's framework development for Joubert Park as it confirms the significance of certain decisions made by the group.

Observations of the JDA urban plan which are incorporated into JPG's urban framework:

- The Jack Mincer Parking Garage (South of Joubert Park) links Hillbrow and the CBD, and is occupied by taxi corporations and commuters.
- Park Station is a vital gateway into the Precinct.
- The Bridge Shopping Centre (west of Joubert Park) separates the Park from the CBD and should be re-thought as its poor design does not accommodate pedestrians or have a relationship with the street edge.
- The streets surrounding Joubert Park should be pedestrianised as taxis render the area unsafe.
- Noord Street should formalise trade.
- Temporary structures in Joubert Park are to be removed and focus placed on those of heritage significance.
- Lapeng Crèche is a NPO in the Park.
- The Greenhouse (Conservatory) is a century old and an important heritage aspect which needs consideration, and could become a tourist site.
- JAG is a pivitol heritage building for urban regeneration.
- The union grounds should be reinstated and a bridge link over the traintracks installed to reintegrate Joubert Park with the City.

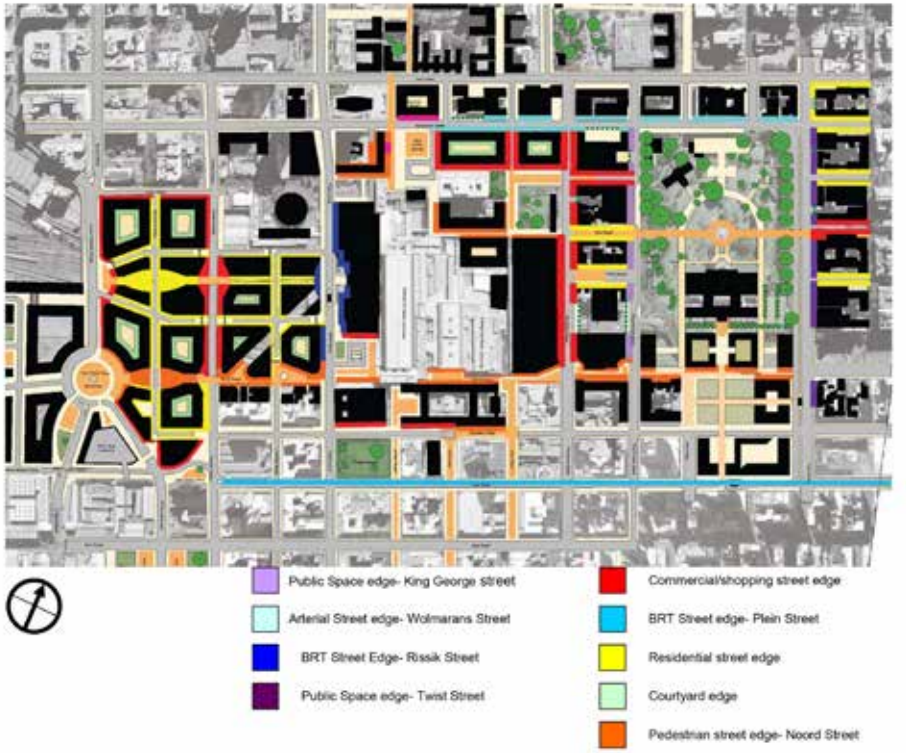


Figure 3.5
JDA (nd) mapping illustrating ground floor edge uses



Figure3.6
JDA (nd) development nodes



Residential Area with Retail on Street edge (e.g. Joubert Park)



Formalised informal trade set back into the building edge

Figure 3.7
JDA (nd) conceptual sections through street edges in the inner city

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3.2.2_ CORRIDORS OF FREEDOM

Corridors of Freedom is a transit-orientated spatial vision for Johannesburg, aiming to reconnect the fractured apartheid influenced city through important transport arteries and interchanges (City of Johannesburg, 2013). The vision aims to combat urban sprawl and create economic opportunities for residents.

Freedom of movement and economic freedom are primary concerns of the project, as well as the development of flourishing mixed-use nodes and public spaces. The City of Johanneburg (2013, p. 1) believes that 'this will give rise to a people-centred City where the needs of communities, their safety, comfort and economic well-being are placed at the core of planning and delivery processes.'

The project focuses on transit nodes and public spaces, making it highly relevant for the Joubert Park Precinct, which lies at the intersection of public space and the Park Station transportation hub. Corridors of Freedom mobilises architecture and urban planning to create safe, sustainable places which stimulate economic activity and opportunities for residents of the CBD.





Figure 3.8
(City of Johannesburg, 2013)

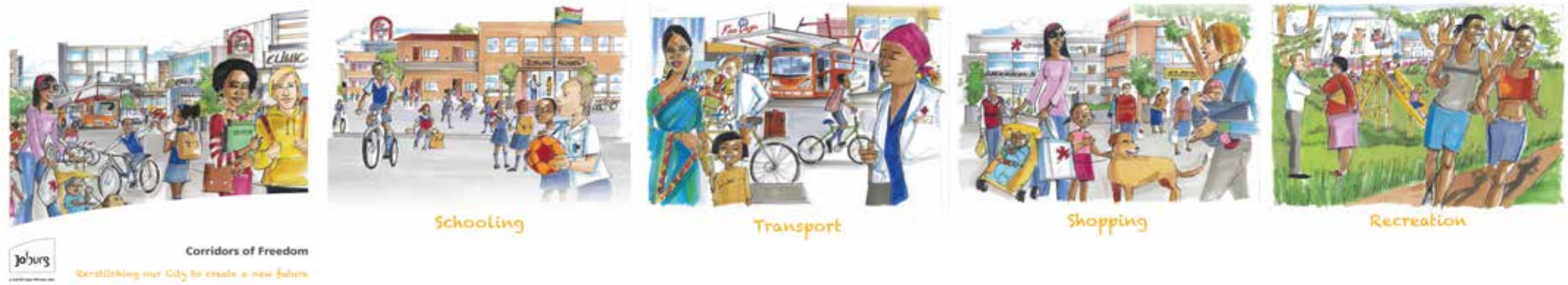


Figure 3.9
(City of Johannesburg , 2013)

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3.3_ THEORETICAL CONCEPTS

3.3.1_ THE EVERYDAY & THE EXTRAORDINARY

'Cities are amalgams of buildings and people. They are inhabit settings from which daily rituals – the mundane and the extraordinary, the random and the staged – derive their validity. In the urban artefact and its mutations are condensed continuities of time and place. The city is the ultimate memorial of our struggles and glories: it is where the pride of the past is set on display.'
Spiro Kostof (1991:16)

Joubert Park, like the city of Johannesburg, is a space of many contradictions (Murray 2008). It is the setting for everyday routines of ordinary people, as well as a space of extraordinary tangible and intangible heritage and spectacular memory. This juxtaposition between the everyday and the extraordinary within Joubert Park ought to be celebrated. The Park is transient and permanent, it is a space for a leisurely stroll, as well as a hastened walk between the bus and train. This is the inherent quality of Joubert Park, which is a well-used public space because it fulfils so many different functions.

The Joubert Park Precinct has an inconsistent community of people residing in the area, whose constant state of flux has unfortunately resulted in an underappreciation of the rich memory and heritage of the area. The Park is deteriorating due to lack of ownership and privatisation of its spaces, which are littered with short term structures. The extraordinary features of Joubert Park are inaccessible to the people using the space and thus overshadowed by mundane ritual. Joubert Park cannot assert its important position within Johannesburg as the memory of its extraordinary heritage and the everyday rituals of the people are dislocated.

The JPG aims to explore the relationship between the everyday and the extraordinary events within Joubert Park, understanding the Park from each perspective. Architectural interventions aim to balance the relationship by allowing the extraordinary built heritage of the Park and its associated memory to be made accessible to the everyday public, and by empowering mundane everyday occurrences to become extraordinary. Thus, architecture becomes the mediator between these contradictions of the Park, connecting the present everyday communities to an extraordinary heritage. In doing so, the community gains understanding and ownership of Joubert Park while finding their footing in a dynamic city in a constant state of flux.

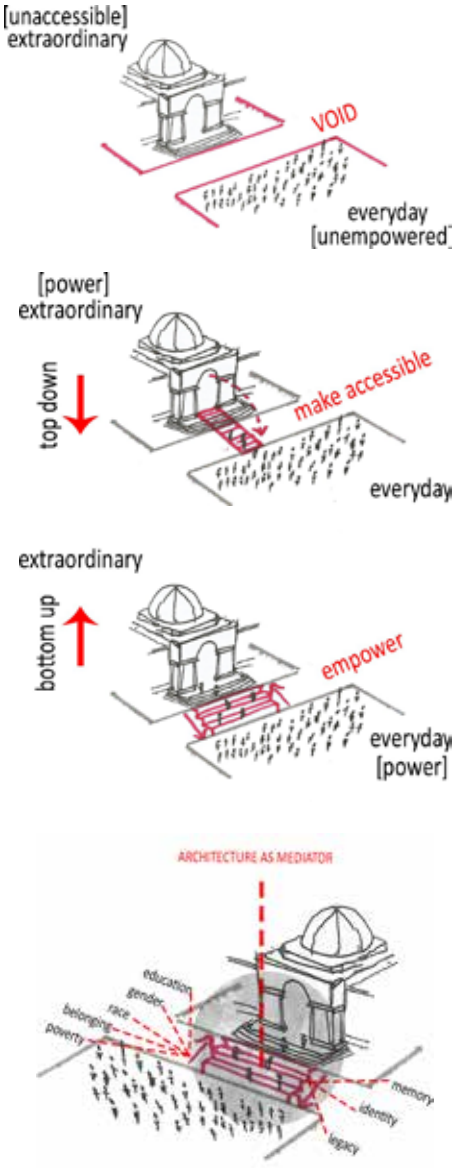


Figure 3.10
(JPG, 2016)

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3.3.2_ SPACE TO PLACE

Lyndon (2009) defines 'place' as a space that can be remembered and believes that a 'place' is generated in two ways: either through the development of structures implying order in space, or through events taking place within the space. Such events may be recurring rituals or unique occurrences which define the space. Places contribute to the creation of collective cultural identity (ibid.).

The JPG believes that Joubert Park is at risk of fading into a non-place, thus losing its significance within its context. Formal structures within the Park are losing their presence and impact within their context, and Joubert Park itself tends to act as a thoroughfare for commuters who do not dwell in the space. The City of Johannesburg considered making Joubert Park a taxi rank, which is a testament to its depleting value and sense of place.

Within Johannesburg's dense urban condition, open spaces facilitating public interaction are crucial to provide a pause from the fast-paced environment; historically and culturally significant spaces are especially important. Joubert Park's identity as a public green space is degrading with the privatisation of large areas, thus throttling the sense of public place. Rehabilitation of the Park's sense of place will reinforce its existing facets of identity and help develop new ones. Thus, architectural intervention ought to facilitate ritual and event within and around Joubert Park to contribute to its salvation and allow the place to assert Johannesburg's identity as the Cultural Capital.



Figure 3.11
(Author, 2016)

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3.4_ MACRO URBAN FRAMEWORK

3.4.1_ OBJECTIVE FOR CENTRAL JOHANNESBURG

The City of Johannesburg (2007) has recognised the lack of parks in the dense urban environment, which are unable to cater for the rapidly increasing population. Therefore, existing parks, such as Joubert Park, are over utilised and deteriorate. The City of Johannesburg (2007) endorses the development of 'culturally appropriate and authentic public places that are accessible to all.' The aim is to develop the inner-city's public realm so that a maximum of 300m separates soft or hard public spaces.

3.4.2_ THE SEAM

The Seam is an urban landscaping proposal by Newtown Landscape Architects (NLA) for the inner-city of Johannesburg. The Seam is essentially spinal landscape development stitching the currently disconnected public nodes of central Johannesburg using a green belt. The Seam focuses on achieving The City Johannesburg's goal for public space accessibility in the inner-city.

In doing so, the scheme enhances and links public spaces and creates a corridor for pedestrian movement. The Seam provides unique identities to parks within a larger framework of public spaces.

'[The Seam] builds upon existing energy, connecting heritage, cultural and sports nodes with natural features to provide a generous and beautiful large-scale public landscape for a broad constituency of public users. It would become a place to recreate, socialize and safely move between areas (Newtown Lanscape Architects, 2015).'

The Seam would be implemented in stages, and before linking all the public spaces, each needs to work successfully in its own right. Thus, although Joubert Park is included in the Seam, before it can be effectively integrated, it needs to develop its own sense of place.

3.4.3_ THE SEAM AND JOUBERT PARK

The Joubert Park Group (JPG) proposes the Seam as the macro urban framework in which the micro urban framework for Joubert Park is situated. This decision stems from the locality of Joubert Park in the centre of the Seam's spinal path, making it an integral part of the development's success. Furthermore, the aims of the Seam align with those of JPG for central Johannesburg's public environment. Once Joubert Park is connected to the important public spaces of the inner-city, its role as a cultural node will be able to have a positive effect on the extended urban environment as an integral part of the Seam.

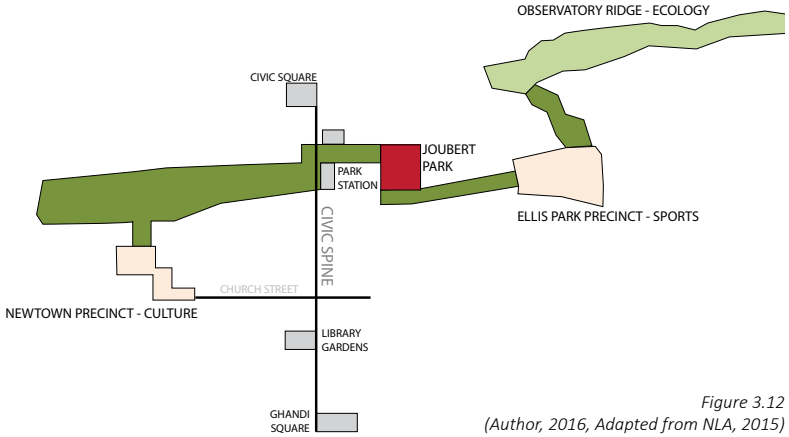


Figure 3.12
(Author, 2016, Adapted from NLA, 2015)

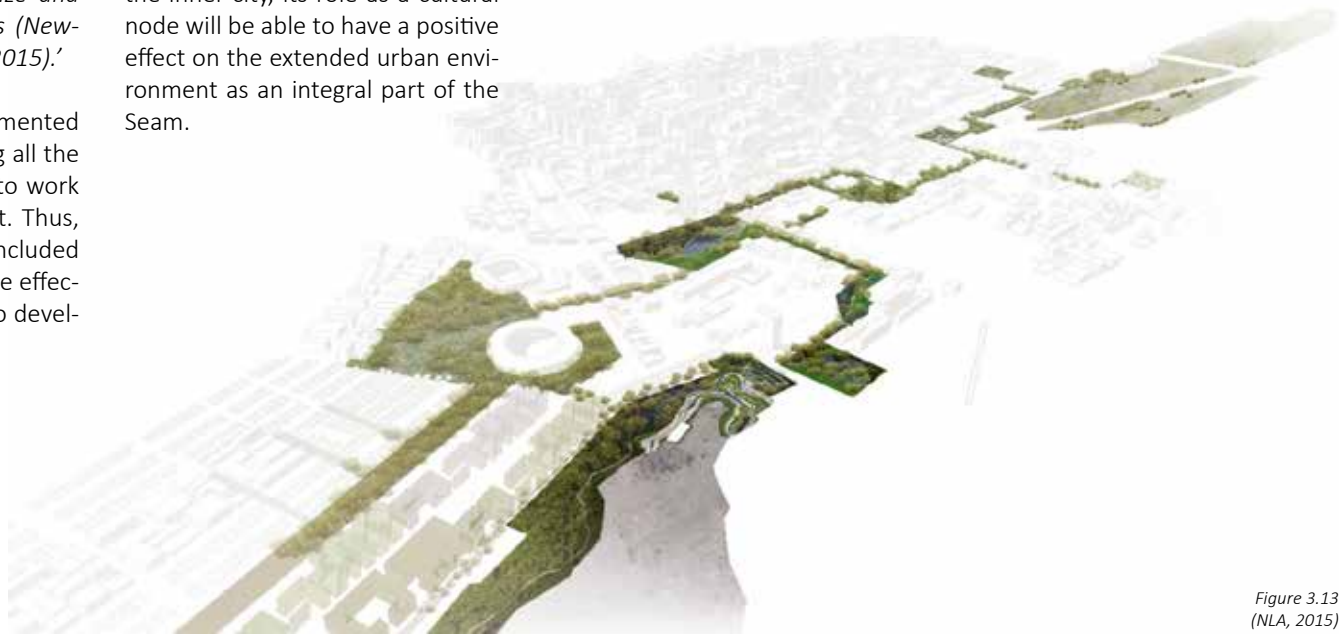


Figure 3.13
(NLA, 2015)

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3.5_ MICRO URBAN FRAMEWORK

3.5.1 _ JOUBERT PARK: THE URBAN ARTSCAPE

The urban vision inspired a framework for the Joubert Park Precinct, in which the area is no longer perceived as a contested space, but a place being remade by new cultural presences and programmes, whose networking embodies the future of the Precinct. The micro urban framework for the Joubert Park Precinct developed by JPG is termed the 'Urban Artscape.' The planning originates from the vision of Johannesburg as the Cultural Capital of South Africa and Joubert Park as an Iconic Public Place and important node to achieve this status.

The focus of the micro framework is to mediate the extraordinary and the everyday contexts of Joubert Park and establish a cohesive identity of place. The framework indicates the location and reasoning behind architectural interventions within a defined context. The framework capitalises on the transport nodes, informal trade, dense pedestrianisation, and heritage of the site, specifically the cultural influences and the Johannesburg Art Gallery (JAG). The framework for the Precinct concentrates on the Park and its immediate context and is implemented in four phases. Individual interventions by Jade Swanepoel, Lisa Verseput, and Ilhaam Tayob are implemented within different phases to strengthen the Urban Artscape Framework.

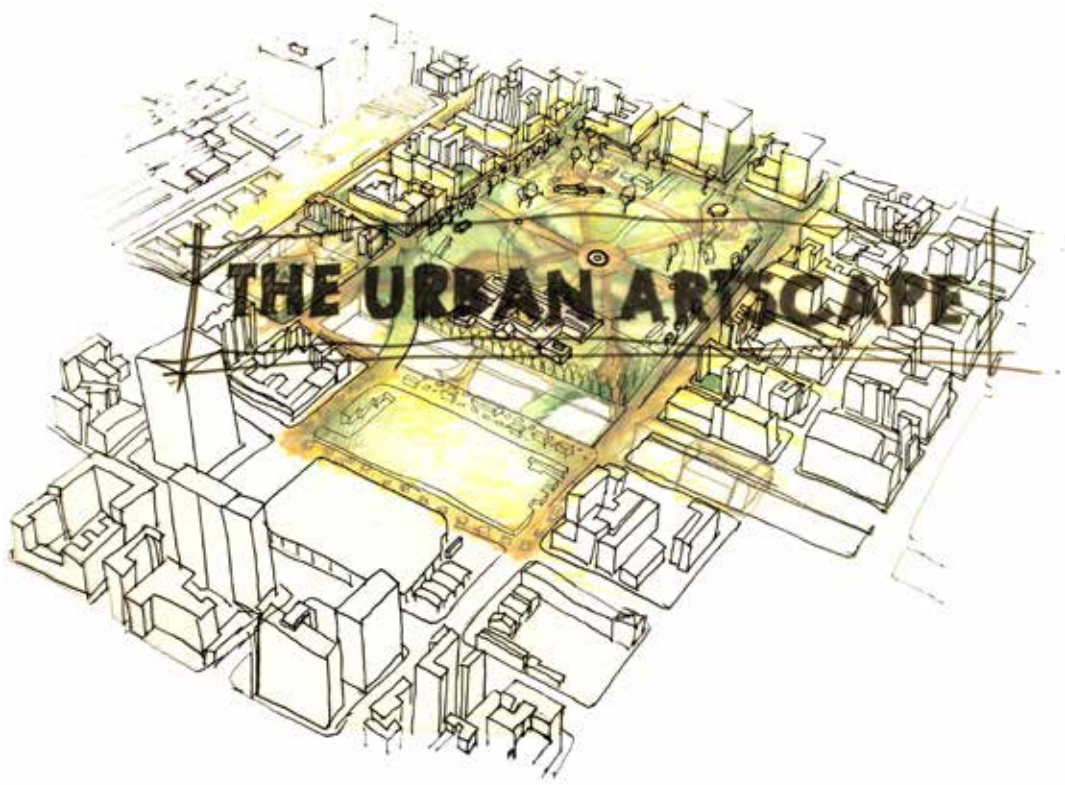


Figure 3.14
(JPG, 2016)

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3.5.2_ CULTURAL PRECINCT CASE STUDIES

Cultural Precincts within the City of Johannesburg were studied to provide precedents for the vision of Joubert Park as a cultural node within the city and inform the design of the framework.

3.5.2.1_ Newtown

Newtown was a low class, stagnated neighbourhood before its regeneration as a cultural precinct. Newtown is recognised as the start of Johannesburg's reinvention of the inner-city, which is now emerging from a period of decline.

Shand (2010), assesses the positive and negative aspect of the Newtown Cultural Precinct in her thesis, which is summarised below.

SUCCESSES
– Newtown has interesting architectural resources and a dynamic heritage.
– Infrastructure of the area is in working order.
–The introduction of Nelson Mandela Bridge has created a gateway into the precinct, connecting it to Braamfontein, another cultural hub.
–Newtown is perceived as a safe, secure, and attractive environment and houses many cultural facilities.
– The identity of Newtown as a cultural precinct has been well marketed.
– Public space is well-defined and appropriate for large functions, such as Mary Fitzgerald Square, which hosts various concerts.
– The Market Theatre is a successful attraction with a rich heritage as a non-racial theatre during apartheid.

DOWNFALLS
– Newtown lacks spatial 'clusters' of cultural endeavours as there is little interaction between the different spheres.
– The primary public spaces, such as Mary Fitzgerald Square, do not facilitate casual relaxation for the everyday people in the area, as there is no provision of private spaces, playgrounds for children, or places stimulating impromptu performance and engagement.
–There is a lack of residential development, therefore it lacks and established and invested community, although there are initiatives to increase residential precence.

Shand (2010) concludes that Newtown Cultural Precinct was designed following the European model of cultural public spaces, which has resulted in spaces that are not well contextualised and thus unable to respond to Johannesburg's urban condition.



Figure 3.15
Collage of Newtown's Character (Author, 2016)

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3.5.2.2_ Maboneng

Maboneng Precinct (2016) identifies itself as an urban neighbourhood born from art, people, and passion. Maboneng started with an arts focus, which has since 'evolved into a collaborative hub of culture, business and lifestyle that entices curiosity, encourages exploration and promotes a sense of urban togetherness (Maboneng Precinct, 2016).'

Rees (2013) discusses the Maboneng precinct, identifying successful and unsuccessful aspects of the cultural interventions. These points are summarised below.

SUCCESSES
–Infrastructural upgrades in Maboneng have attracted private investors.
–Maboneng has redirected interest of Johannesburg to the city centre.
–Platforms are provided for small businesses and artistic niches.
–Tourists are attracted to the area, generated external capital for business owners.
–Various NGO initiatives aiming to engage with residents are present in the area.
–Artistic ventures have been revitalised, aiding the creation of an art appreciating audience in Johannesburg.

DOWNFALLS
–The precinct has attempted to integrate the Jeppestown community in its development, but has been largely unsuccessful in integrating the local population
–Guards are stationed to chase away begging children and drunkards to create a 'safe' environment for visitors, which has resulted in a feeling of 'otherness'

Maboneng may be considered as a positive move towards a socially integrated society in Johannesburg as it provides an environment in which people from various economic and cultural backgrounds can engage with one another and begin to understand their similarities and differences (Rees, 2013).

The Maboneng Precinct also creates cohesion between the built fabric and the streetscape, stitching the urban fabric (Daffonchio, n.d.).



Figure 3.16
Collage of Maboneng's Character (Author, 2016)

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3.5.2.3_ Braamfontein

Braamfontein is part of Johannesburg's 'cultural arc', which includes Newtown, the University of the Witwatersrand, Constitution Hill, and the Civic Centre. Braamfontein is a prominent arts and entertainment centre and is the location of the Joburg Thearea and the National Schiil of the Arts.

The Mail & Guardian (2016) discussed the following positive and negative aspects of Braamfontein, which are summarised below.

SUCCESSES
– Braamfontein's proximity to Wits and the availability of student accommodation provides the area with a young audience and the energy of a range of multi-use commercial ventures.
– Private investment has promoted the upgrading of infrastructure.
–Street art has been mobilised to add vibrancy to the public sphere, illustrating Braamfontein's cultural identity.
–Braamfontein is easily accessible via car, the BRT, minibus taxis, the train and Gautrain, as well as bicycle lanes.
–The precinct has a pedestrian friendly sidewalk culture.
–The Neighbourgoods Market attracts people from outside of the inner-city.

DOWNFALLS
–Braamfontein is integrated within its boundaries, but segregation is clearly visible when observing the surrounding context, which is in a state of decay.

Braamfontein is continuously developing and affecting change beyond its boundaries, setting it apart from the Newtown Cultural Precinct and less successful cultural hubs of Johannesburg. The presence of a youth culture as well as its connected location has contributed to its success.



Figure 3.17
Collage of Braamfontein's Character (Author, 2016)

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The discussed local precedents of cultural precincts in Johannesburg have a common flaw which has stunted their growth and limited their impact on the urban environment: the community living in the area prior to upgrades was not included in the development or the targeted audience. The result is a precinct which is designed top-down and although successful in its own right, it is unable to interact with its context or improve the city beyond its boundaries.

'If you want organic transformation, it is so important to do the project from inside out … there is only one way an urban integration community can work and that is if you become a part of it.'
Luptak M. as quoted by Rees (2013)

If Joubert Park is to become a cohesive and inclusive cultural precinct, the current community's involvement and investment is paramount.

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3.6 _ PRECEDENT - PARC DE LA VILLETTE

3.6.1_CONCEPT _POINTS, LINES, AND SURFACES

The Parc de la Villette is one of Paris' largest parks, designed by Bernard Tschumi in the late 20th century inspired by the deconstructionist philosophy. Tschumi challenged the traditional perceptions of a park, considering what a park ought to be in the 21st century.

Tschumi uses points, lines, and surfaces as the ordering principles of Parc de la Villette (Rich, 2013).

POINTS – A grid of 35 points are highlighted with abstract red installations called 'follies'. The follies are points of reference in the landscape that maintain a sense of place throughout the large park.

LINES – The primary movement paths across the Park are the lines, and they do not follow any organised routes but rather intersect and lead to points of interest in the Park and its urban context.

SURFACES – The green spaces of the Park are categorised as the surfaces.

Parc de la Villette was not intended to be a picturesque park typical of centuries past, but rather an open space to be explored and discovered by visitors. Therefore, places for interaction and activity were used to evoke a sense of freedom while an organising system provided points of reference (Rich, 2013).

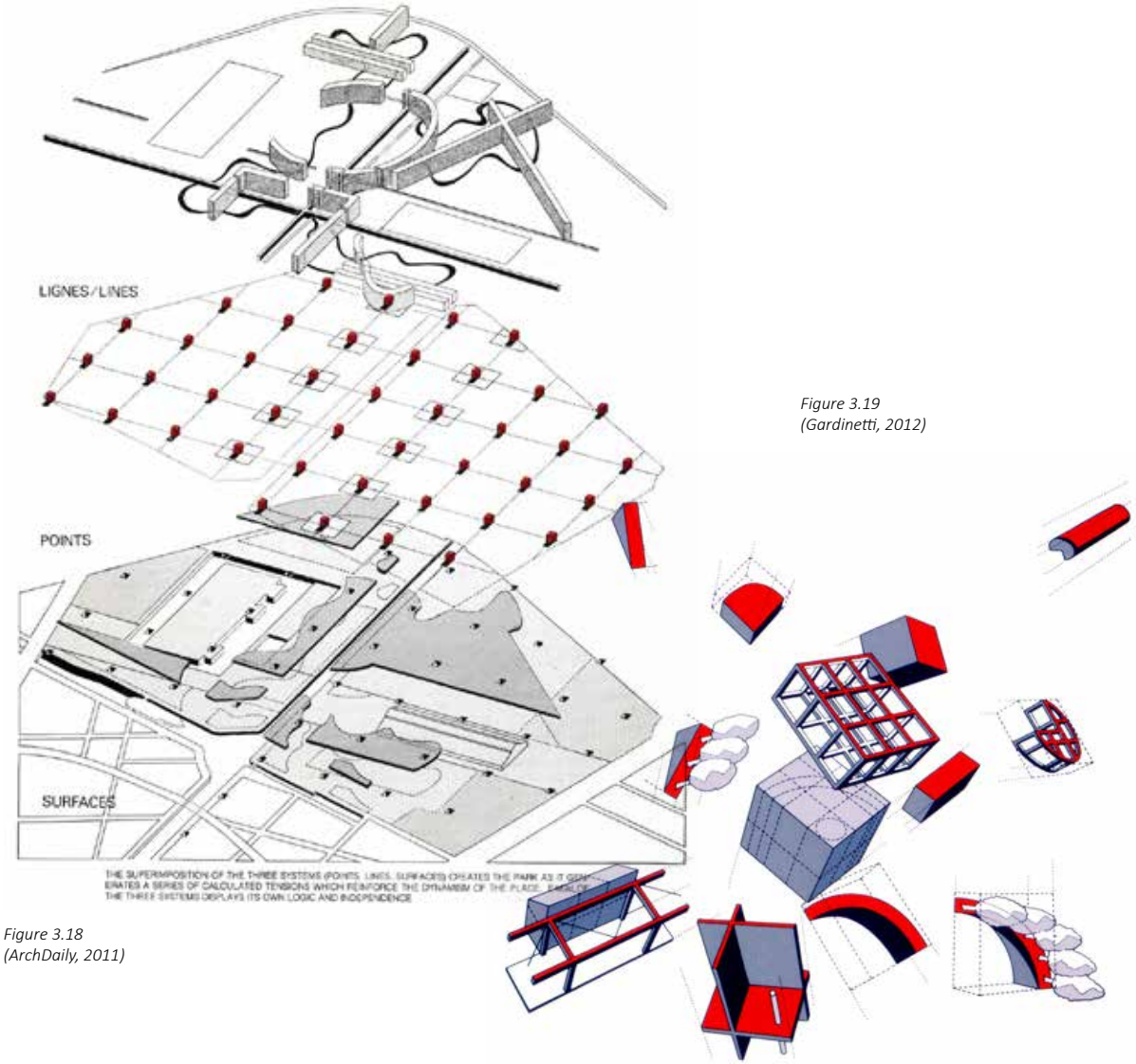


Figure 3.19
(Gardinetti, 2012)

Figure 3.18
(ArchDaily, 2011)

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3.6.2_THE CULTURAL PARK

The Parc de la Villette houses a large concentration of cultural venues, including Europe's largest science museum, three major concert halls, and the prestigious Conservatoire de Paris. Live performance stages and playgrounds are found throughout the park and the 35 follies could be considered as art sculptures in their own right. The cultural attractions of Parc de la Villette define its identity as an engaging cultural space within Paris.

Activities within the park aim to engage people of all ages and cultural backgrounds by providing a platform for cultural expression for local artists and performers to exhibit. The Park aims to exist as a frame for cultural interaction.

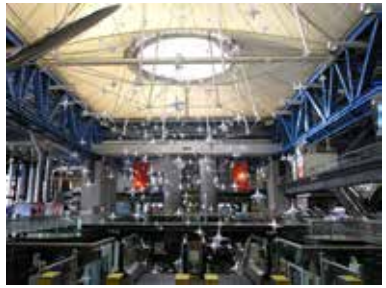


Figure 3.20
Cité des Sciences et de l'Industrie (Pouhier, 2006)



Figure 3.21
Philharmonie de Paris (Marketing, 2015)



Figure 3.22
Conservatoire de Paris

3.6.3_THEMED GARDENS

Parc de la Villette has a collection of 10 themed garden spaces, designed by various artists and each possessing a unique character. The gardens fulfil various functions; where some gardens encourage active engagement, others stimulate curiosity, or provide relaxing environments.



Figure 3.24
Le jardin des Miroirs (Atlas Museum, 2016)
(Garden of Mirrors)
Designed by: B. Tschumi



Figure 3.23
Le Jardin du Dragon (Murphy, 2011)
(The Garden of the Dragon)
Designed by: Ghys and B. Tschumi



Figure 3.25
Le jardin des Ombres (Limoges, 2016)
(Garden of Shadows)
Designed by: U. Kurz

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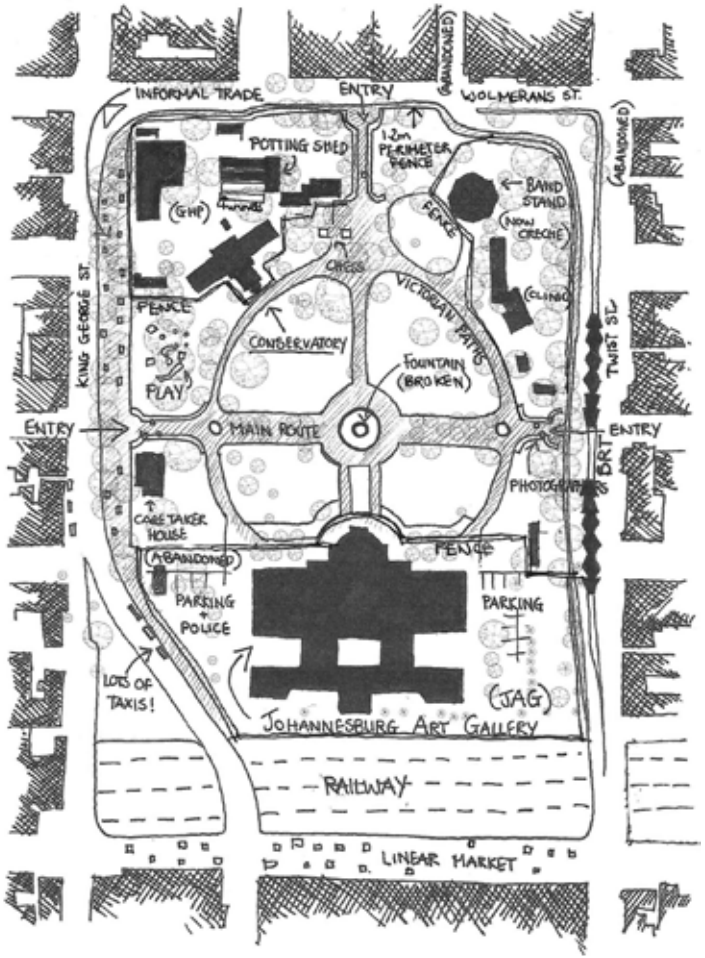
3.7 _ JOUBERT PARK GROUP FRAMEWORK

3.7.1_ MASTERPLAN

The final framework (Figure 3.27) is illustrated alongside the existing condition of Joubert Park (Figure 3.26), showing the major physical differences between the two layouts. The masterplan preserves the heritage buildings (JAG, Conservatory, and Bandstand), as well as the original landscaping (paths and trees). All other structures are demolished and the vision emphasises that the Park is reclaiming its position as an important public space, as the NE and SW corners are recovered. The individual architectural dissertation projects of the JPG members are indicated on the plan, numbered as such:

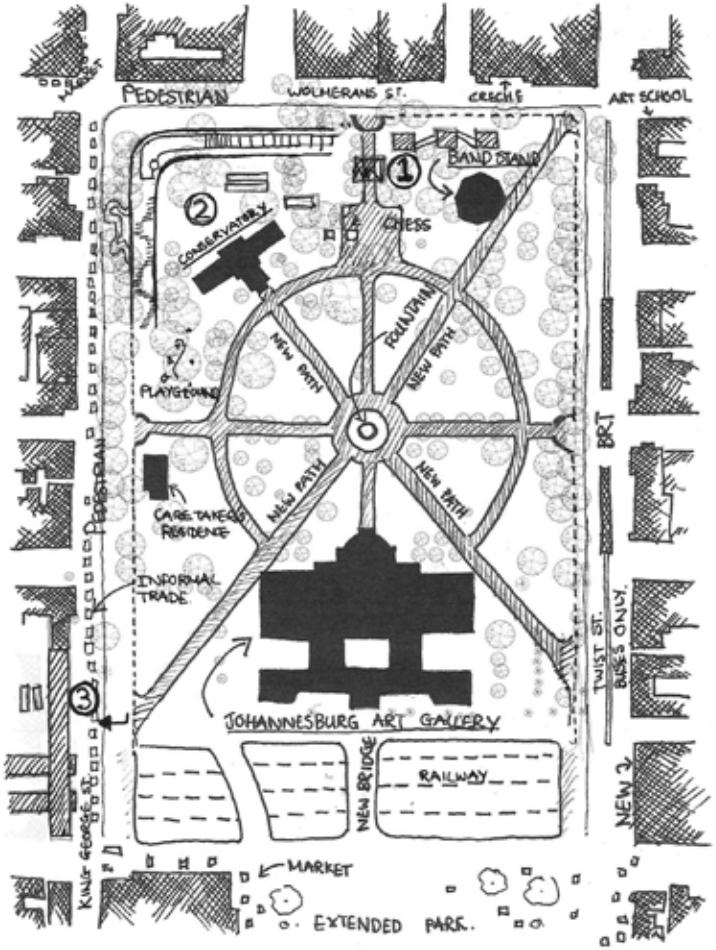
1- 'The Memory Archive'
by Jade Swanepoel
2- 'The Creative Conservatory'
by Lisa Verseput (Author)
3- 'Empowering the Everyday'
by Ilhaam Tayob

The Creative Conservatory and the Memory Archive frame the edges of the Park while stimulating public engagement with the arts and JAG. Empowering the Everyday is an entrepreneurship centre and informal trade runs along the pedestrianised King George Street, activating the precinct.



JOUBERT PARK: EXISTING
2016

Figure 3.26
(Author, 2016)



JOUBERT PARK: VISION
THE URBAN ARTSCAPE

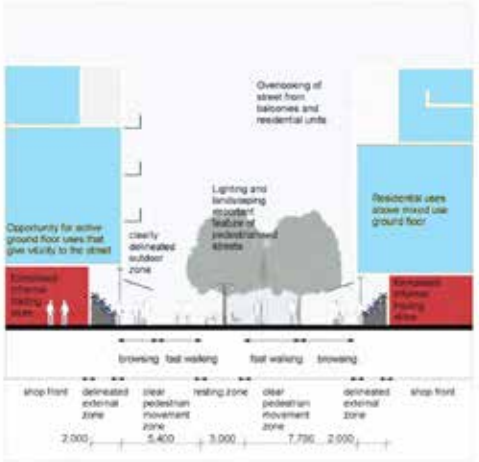
Figure 3.27
(Author, 2016)

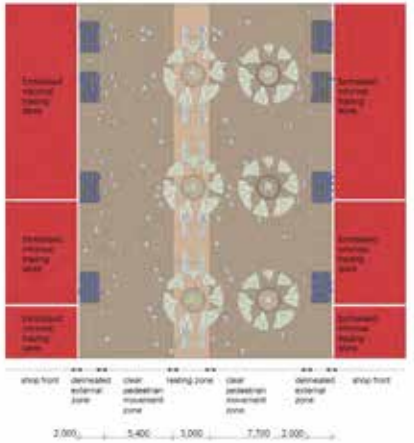
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3.7.2_ ACTIVE STREET EDGES & MIXED USE BUILDINGS

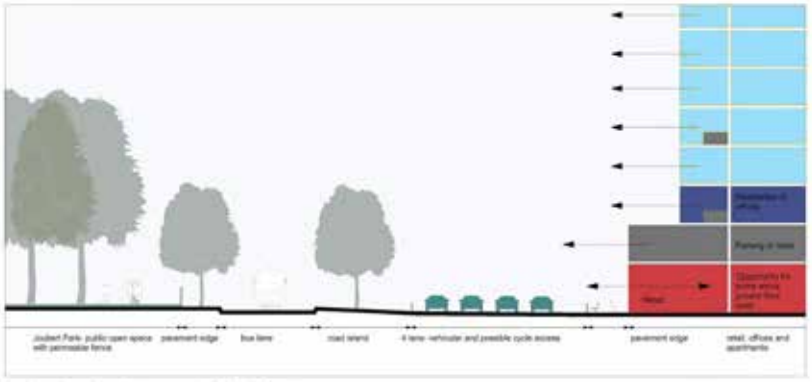
The JDA observed that successful building use in a city has retail on ground floor, topped by offices or apartments. This helps make streets safe and interesting. The street edges around Joubert Park are not activated presently, and the vision aims to encourage formal retail on ground floor that keeps eyes on the street, and the formalisation of informal trade along pavements. The JPG suggests informal trade along dead facades to allow streets to become places for interaction.

Figure 3.28
(Author, 2016, Adapted from JDA, n.d)

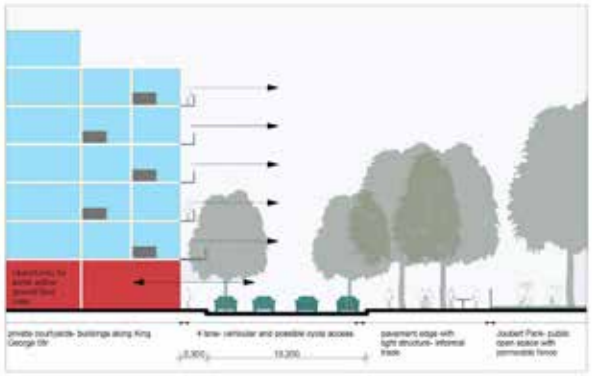




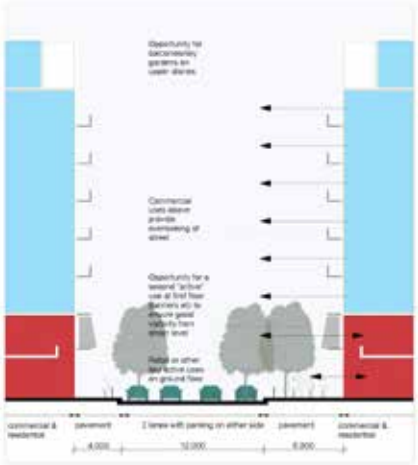
Section and plan through pedestrian Noord Street



Section through public space edge- Twist Street



Section through public space edge- King George Street



Section through arterial route- Wolmarans Street

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3.8 _ JPG INDIVIDUAL DISSERTATIONS

3.8.1_ CONCEPTUAL RELATIONSHIPS

Each member of the JPG undertook an architectural dissertation sited in the Joubert Park Precinct. Due to the close proximity of the projects, members ought to consider each other's interventions in the development of their own. Brief summaries of each project have been written by their authors.

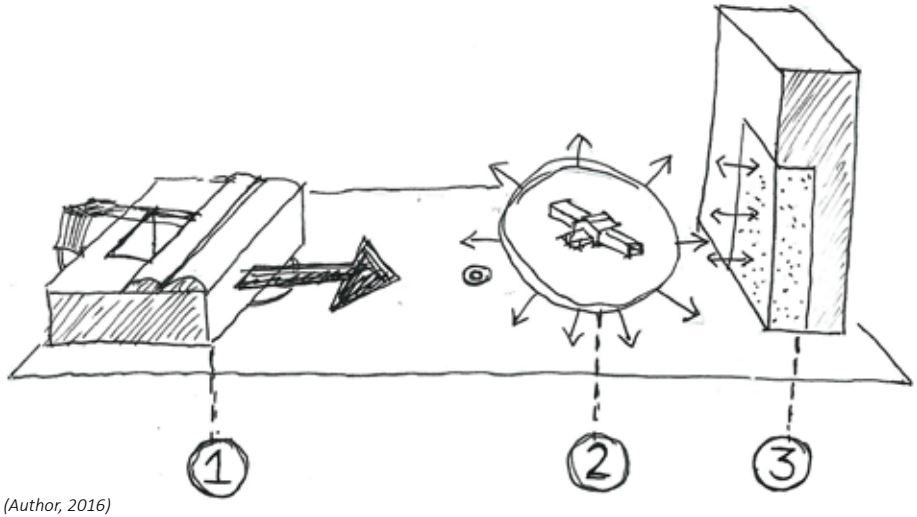


Figure 3.29
Schematic Diagram (Author, 2016)



Figure 3.30
(Author, 2016)

1] JAG SPILLS OUT INTO THE PARK

The Urban Archive
Jade Swanepoel

The Urban Archive exposes the **extraordinary** art of JAG to the **everyday** life of the Park

2] JOUBERT PARK SPILLS OUT INTO THE CITY

The Creative Conservatory
Lisa Verseput (Author)

The CC cultivates **extraordinary** creativity, applying and exhibiting community arts and media to improve and inspire the **everyday** condition

3] THE CITY INTEGRATES WITH THE PARK

Empowering the Everyday
Ilhaam Tayob

The Entrepreneurship Centre stimulates small business creation, empowering the **everyday** to become **extraordinary**

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Figure 3.31
The Everyday and Extraordinary Relationship (Author, 2016)



Figure 3.32
The Everyday and Extraordinary in Joubert Park (JPG, 2016)

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3.8.2_THE URBAN ARCHIVE
JADE SWANEPOEL

1- NE quadrant of Joubert Park, JHB

The site, situated to the south of Hillbrow, was the first park established in Johannesburg, servicing high density residential and office blocks. It is also a major junction between multiple transportation nodes. The Johannesburg Art Gallery sits to the south of the site, under-valued and misunderstood in its context. The Park and the Gallery are under threat from the converging city and require a stronger raison d'etre within the city fabric. The intention is to re-establish lost connections between the Park and the Gallery, as well as the Park and the City through a series of urban archiving hubs which document the changes that occur in the space over time. This will provide an archive of images from which planners can learn from for future regeneration projects.



Figure 3.33
(Swanepoel, 2016)



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3.8.3_THE CREATIVE CONSERVATORY
LISA VERSEPUT (AUTHOR)

2- Conservatory Complex,
NW quadrant of Joubert Park, JHB

The Creative Conservatory (CC) is a Community Media and Arts Centre driving universal media accessibility and providing an enabling environment for the flourishing of artistic and cultural expression and development. The CC prioritises creative career development, community media, workshop problem-solving, and artistic expression, facilitating social inclusion and developing creative communities. The building is an extension of the Park landscape, rising from the earth, and draws on the tangible and intangible heritage of the iconic Joubert Park Conservatory on the site.

This dissertation explores the journey of developing the Creative Conservatory.





Figure 3.34
(Author, 2016)

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3.8.4_EMPOWERING THE EVERYDAY
ILHAAM TAYOB

3- King George Street, Hillbrow, JHB

This project looks to establish an effective model for the development of the existing fabric in the inner city, focusing specifically on trade in the precinct. The project looks at how to develop trade from its existing survivalist model, to one that leads to a more opportunistic form of trade. It is an economic and educational centre that provides the infrastructure necessary to assist the new city dweller in developing their business ideas and future aspirations. This model links to a historical residential fabric with the intention of creating an empowering space for the development of the existing residential user.

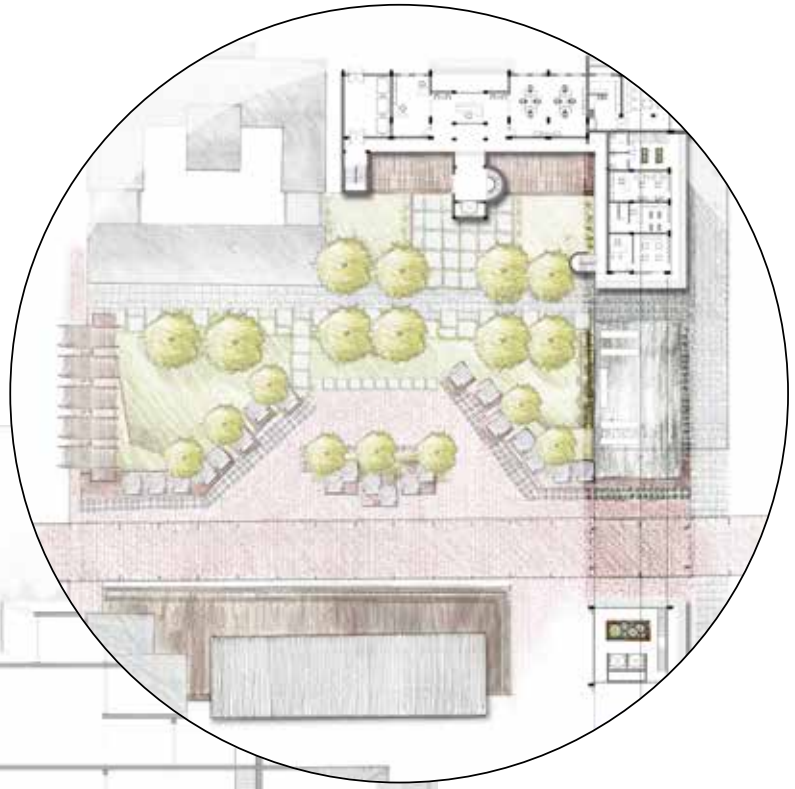


Figure 3.35
(Tayob, 2016)



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3.9_ CHARACTERISTICS OF THE MICRO FRAMEWORK

3.9.1_PEDESTRIAN ORIENTATED



Joubert Park is currently a traffic circle around which taxis, cars, and buses revolve. The micro framework calls for the pedestrianisation of these streets, only allowing the bus route on Twist Street to remain. This facilitates free and safe movement around and within the Park. Secondary paved pedestrian paths are added to the landscaping directing inhabitants to important spaces, such as the heritage Conservatory, the Bandstand, and new developments in the SW. These routes are diagonal, capturing the energy of the pedestrians present at the corners of the site and drawing people into the centre of Joubert Park.

3.9.2_HERITAGE RESPONSE



The micro framework of Joubert Park is driven by an understanding of its tangible and intangible heritage and how its reinterpretation can contribute to placemaking and the positive rehabilitation of the Park within its greater context. The study of Joubert Park's intangible changing identity inspired the vision for the Park as a cultural centre and iconic public place. Various forms of tangible heritage also act as foundations for the framework, inspiring phases of action, as well as programmatic interventions. Existing heritage buildings are celebrated in the framework, becoming anchors for design and space creation. JAG's events spill out into the Park, the Bandstand reclaims its function as a platform for entertainment, and the Conservatory is reimagined as a creative exhibition plaza. These heritage informants drive the vision of Joubert Park as a cultural oasis in the City.

3.9.3_PUBLIC SPACE



The micro framework challenges the privatisation of public space and the existence of buildings in the Park which do not contribute to the public environment or valuable placemaking. Therefore, it is proposed that all buildings that have no heritage value or contribution to the public realm should be demolished, as their private nature and the subsequent isolation is inappropriate within the context of a historically significant public park. Doing so provides the opportunity for new public programmes to be introduced to Joubert Park, especially focusing on culture, creativity and the vision of an Urban Artscape.

3.9.4_PROGRAMMING



JPG proposes new programming for the Joubert Park Precinct which supports its role as an iconic public place and node within the Cultural Capital. Therefore, ground floor businesses and abandoned buildings are adapted to fulfil social, arts, culture, and educational functions, as well as provide activities to attract visitors and involve the community. The architectural interventions of the JPG members fit within this framework in their motivations and programmatic intentions.

3.7.5_NODES

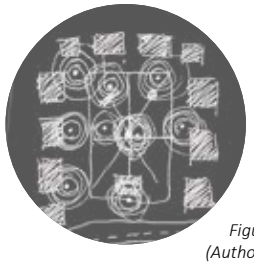


Figure 3.36
(Author, 2016)

Within the Urban Vision, Joubert Park Precinct becomes an iconic public place and node within the City. Smaller nodes within the Precinct contribute to its status as an iconic public place. The JPG proposes arts and culture nodes, culinary nodes, educational nodes, and entrepreneurship nodes.

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3.9.6_THEMED GARDENS

Inspired by Parc de la Villette, Joubert Park is ordered into various themed garden spaces, named after South African Artists whose work embodies the unique nature of the different spaces. The gardens evoke curiosity and encourage unique identities for different areas of the Park.

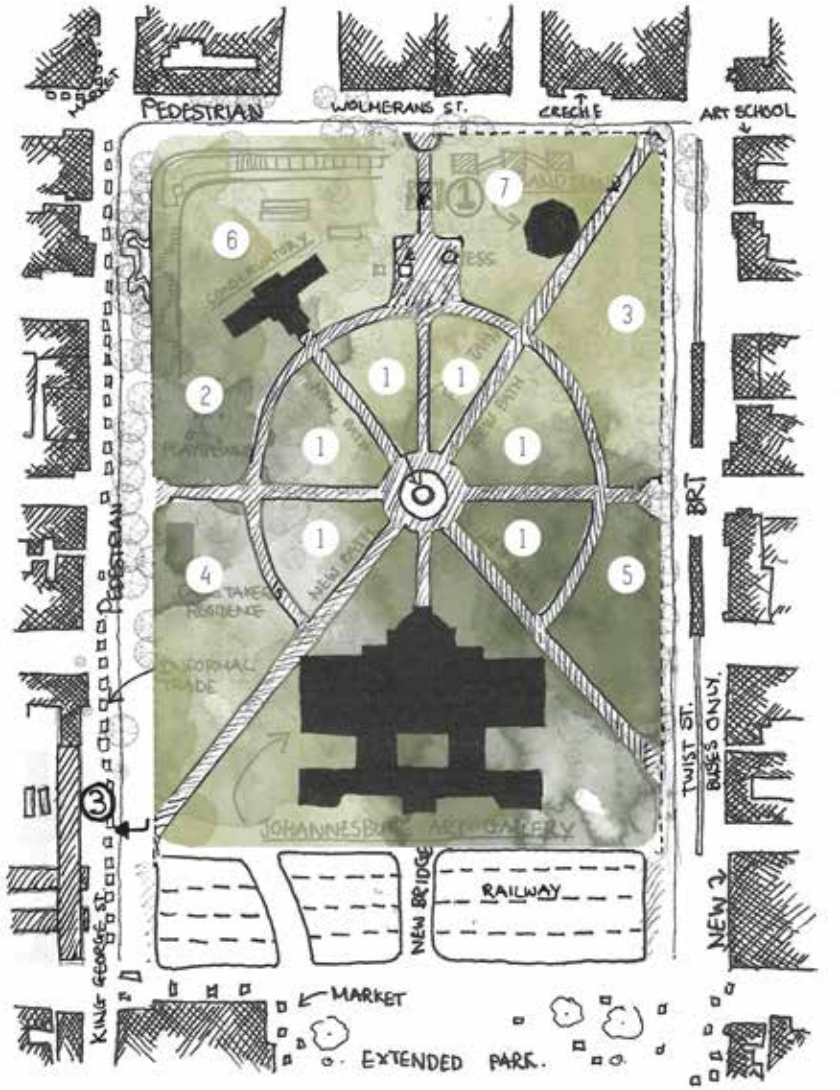


Figure 3.37
(Author, 2016)

1



Figure 3.38
(Stock Photo, 2014)

Freedom Garden is unprogrammed lawn in which users of the Park give the space an identity through their manner of inhabitancy. The space is inspired by the new chapter of history in which people have equal rights and opportunities to define South Africa.

2



Figure 3.39
(Walter Battiss, nd)

Walter Battiss (1906 –1982) is considered to be the foremost South African abstract painter and creator of the quirky “Fook Island”. Fook Island was the ‘Island of Imagination’ that embodied Battiss’ utopia. He created passports, a language, people, and a history of the playful world (Battiss, 2015). Thus, the Play Garden is inspired by his work, and has creative playgrounds for children.

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3

GERARD SEKOTO [WAITING] GARDEN



Figure 3.40
(Gerard Sekoto, 1943)

Gerard Sekoto (1913-1993) was a South African artist and musician recognised as the pioneer of urban black art and social realism. He was the first black artist to enter JAG's museum collection (Reid, 2016). In 1947 he left for Paris under self-imposed exile, waiting for South Africa to emerge from Apartheid. Adjacent to the BRT, the Waiting Garden provides people with benches and spaces to relax and converse with one another while waiting for their buses.

4

WILLIE BESTER [WEATHERING] GARDEN



Figure 3.41
(Willie Bester, 2000)

Willie Bester (1956-) famously mobilised art to express political conscience in the anti-apartheid movement. He creates collages of collected materials, often regarded as scrap, such as bones, tins, and newspaper (Presidency, 2016). His metal sculptures show how everyday objects have the capacity to become extraordinary.

5

DIANE VICTOR [MIRROR] GARDEN



Figure 3.42
(Diane Victor, 2014)

Diane Victor (1964-) mobilises printing and drawing of the figure to create complex narratives relating to contemporary South Africa and to the global crisis of war, corruption and violence. Victor depicts reality fraught with injustice, revealing the complexity of existence (Krut, 2016). The Garden holds mirror sculptures, encouraging people to reflect on themselves and their context.

6

WILLIAM KENTRIDGE [CREATIVE] GARDEN



Figure 3.43
(William Kentridge, 1999)

William Kentridge (1955-) innovatively films his sketching to capture the process of his creativity, which becomes the artwork itself. His palimpsest-like works find meaning in the individuals interpretation of the subject matter, with is often social injustice (Krut, 2016). The Creative Garden fosters extraordinary curiosity and creativity in the everyday lives of ordinary people.

7

MIRIAM MAKEBA [SONG] GARDEN



Figure 3.44
(South African History Online, 2015)

Miriam Makeba (1932-2008) was a South African singer and civil rights activist. She popularised African music internationally and used her platform to resist apartheid (Kirkpatrick, 2015). The Song Garden houses the Bandstand, providing a performance space.

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3.10 _ IMPLEMENTATION PHASES OF THE URBAN ARTSCAPE

3.10.1_PHASE 1 - EXHIBITION PARK

The JPG's micro urban vision for the Joubert Park Precinct, the Urban Artscape, is undertaken in four phases. Architectural interventions by JPA members strengthen the reintegration of the Park and the regeneration of place and a sense of identity within the Cultural Capital macro framework.

Phase 1 aims to reconnect JAG to the Park, as it is currently very isolated within its context. JAG is the premier Art Gallery of Johannesburg and thus a catalyst in turning the City into a Cultural Capital.

– The fences around JAG are removed as well as the line of trees acting as a visual barrier.
– Fences around the Conservatory are removed and the Greenhouse Project is relocated to the City Bowl Market.
– Buildings in the precinct without heritage significance are removed.
– The crèche currently located at the old Bandstand is relocated into the church building on Wolmarans Street. The fences around the Bandstand and the buildings without heritage significance are removed.
– Archives of JAG spill into the Park in Jade Swanepoel's intervention: an exhibition and photographic studio.
– A temporary bridge is built across the railway connecting Noord Street to JAG's original entrance.

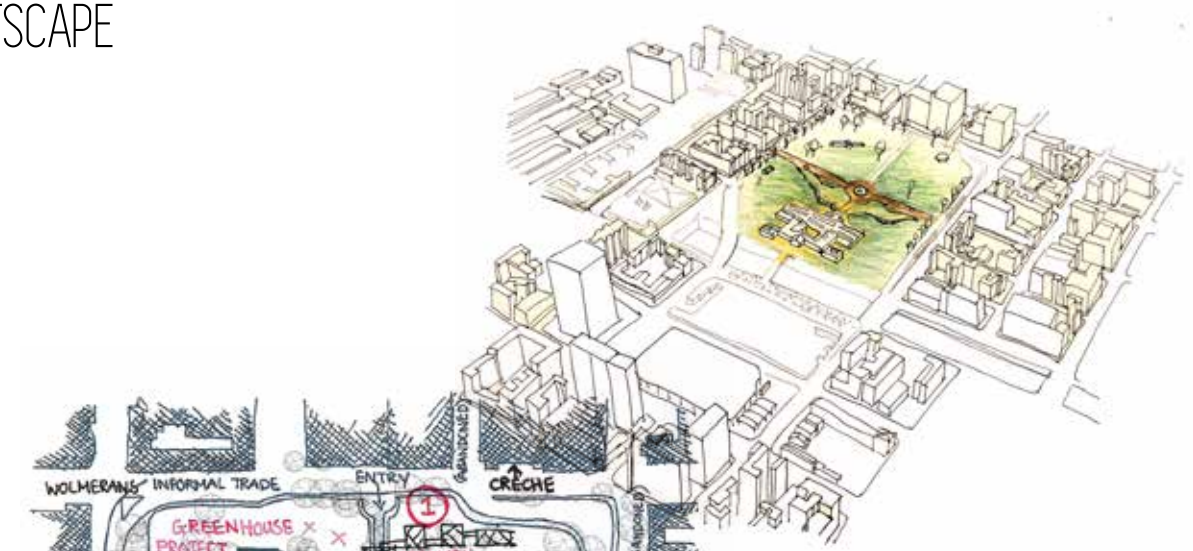


Figure 3.45
(JPG, 2016)

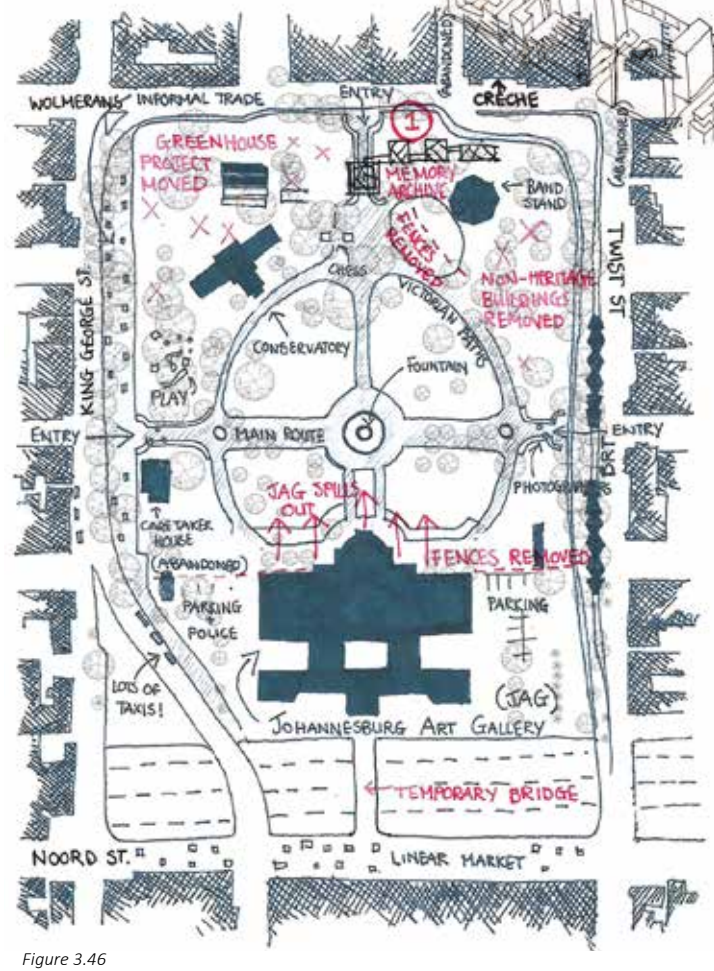


Figure 3.46
(Author, 2016)

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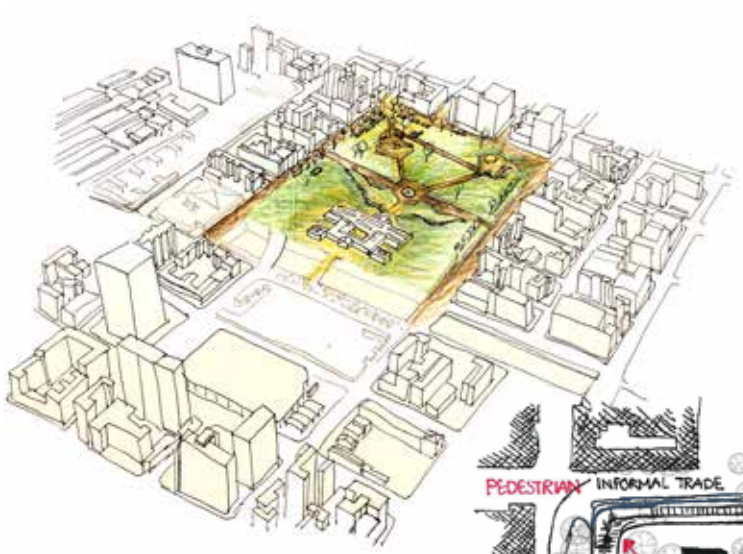


Figure 3.47
(JPG, 2016)

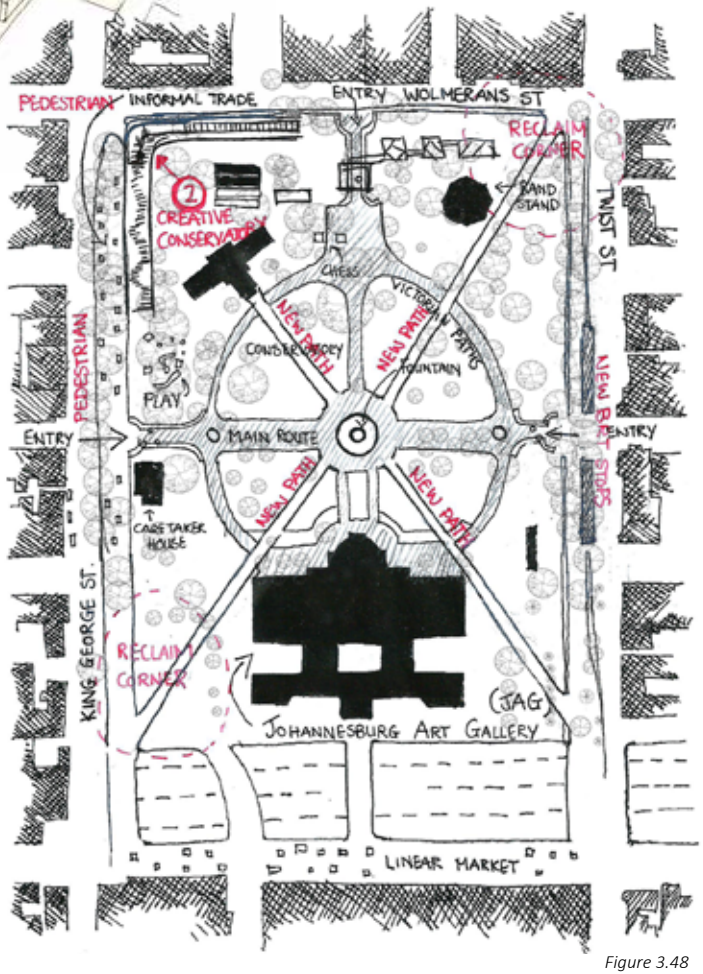


Figure 3.48
(Author, 2016)

3.10.2_PHASE 2 - CREATIVE PARK

Phase 2 aims to connect everyday people to the arts by creating platforms of engagement, thus expanding the audience appreciating art and making the Park an iconic cultural node.

– The Park starts to reclaim its boundaries, the NE and SW corners are taken back from the road and the edges are defined by the low heritage fence.
– Wolmarans St, King George St, and Twist St are pedestrianised and the edges of adjacent buildings are restructured to be more engaging with pedestrians.
– The BRT stop is restructured to allow a direct route between the eastern Park entrance and the opposite street.
– Diagonal axes and routes are introduced to the Park plan which aim to capture energy around the corners of the Park to be drawn into the centre.
– The Creative Conservatory, a creative hub, is introduced, the dissertation intervention of Lisa Verseput.

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3.10.3_PHASE 3 - GAINING GROUND

Phase 3 deals with the momentum of the Park asserting itself within its context. The cultural influences of the Park as an oasis in the city start to spread beyond its boundaries.

– The temporary bridge to JAG is made permanent and another bridge is added.
– Themed gardens are introduced within Joubert Park.
– The shopping mall on Noord Street is demolished and the land reclaimed as Union Ground, a heritage Park of Johannesburg.
– Union Ground is adapted as the new linear market, currently located on Noord St.

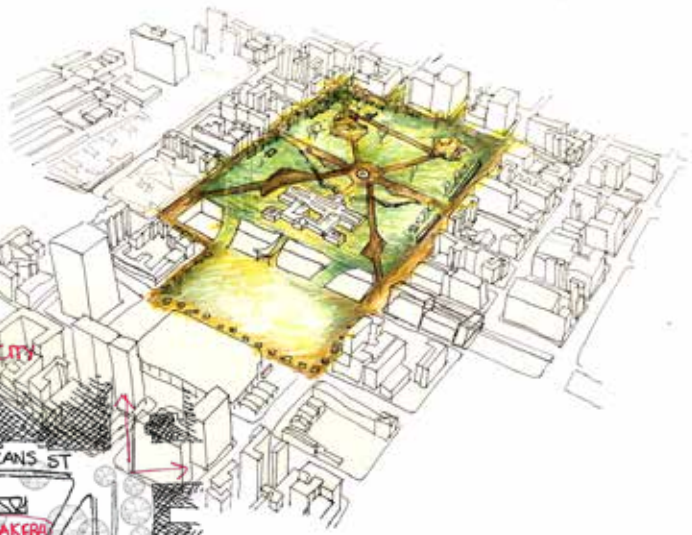


Figure 3.49
(JPG, 2016)

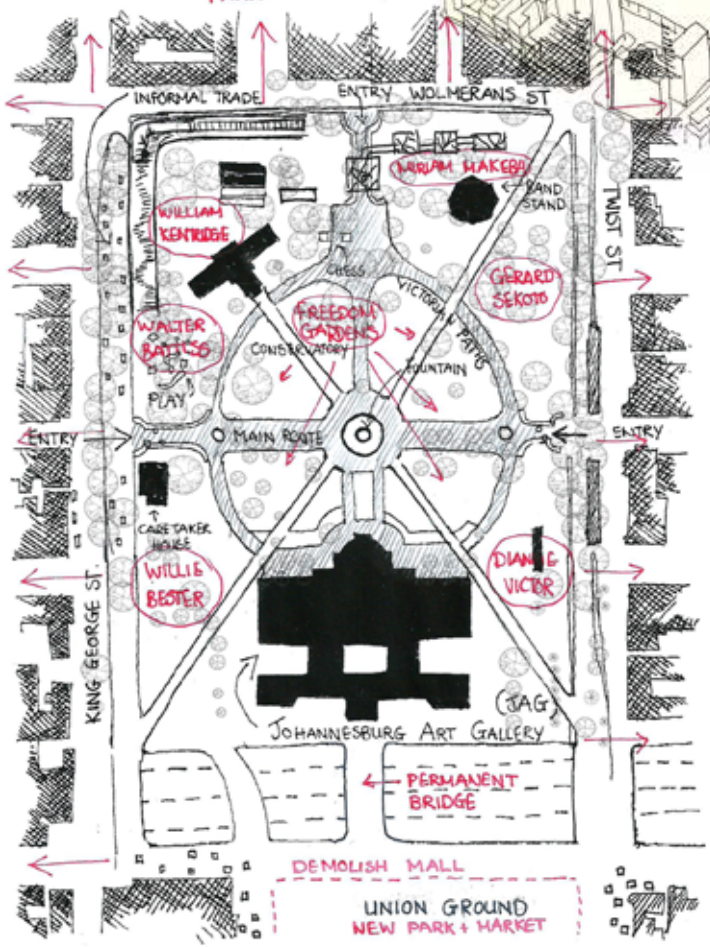


Figure 3.50
(Author, 2016)

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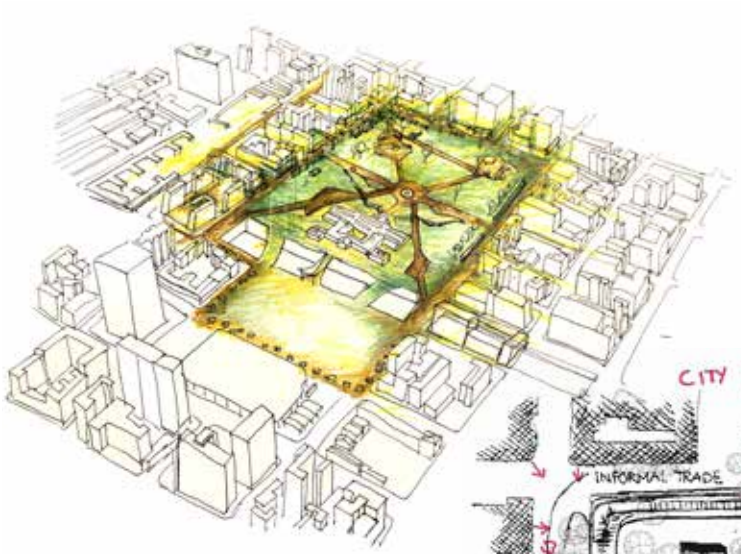


Figure 3.51
(JPG, 2016)

3.10.4_PHASE 4 - CITY PARK

The final Phase explores Joubert Park's influence in the city beyond its tangible boundaries. The Park becomes a public place with a strong identity which is able to support other functions.

– The city blocks around the Park are populated with new, entrepreneurship driven functions.
– Ilhaam Tayob's architectural intervention is introduced: a small business development centre.
– Finally, Joubert Park Precinct has become the Urban Artscape.

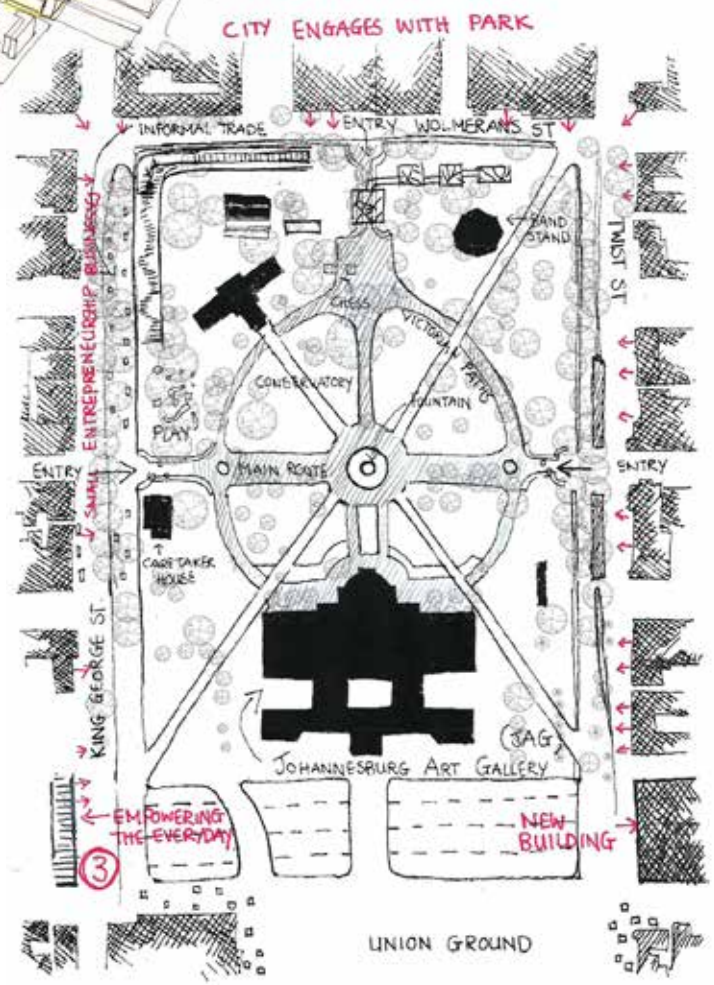


Figure 3.52
(Author, 2016)

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Figure 3.53
The Existing vs the Vision (JPG, 2016)

3.11 _ SYNOPSIS

The Urban Vision and Framework of the Urban Artscape, by JPG, provides the context in which the Creative Conservatory is rooted. The architectural intervention, which is the topic of the dissertation, contributes to the success of the vision and framework and the realisation of Joubert Park as an Iconic Cultural Node and vital aspect in Johannesburg's identity as the Cultural Capital of South Africa.

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C_INCUBATION

INTERNALISATION OF THE PROBLEM & PRECONSCIOUS PROCESSING

The Second Stage of the Creative Process, according to Wallas (1926) is Incubation. During incubation, time is spent on conscious mental work rather than directly trying to solve the problem at hand. Likewise, the theoretical chapter will not aim to solve the problem, but rather explore valuable concepts.

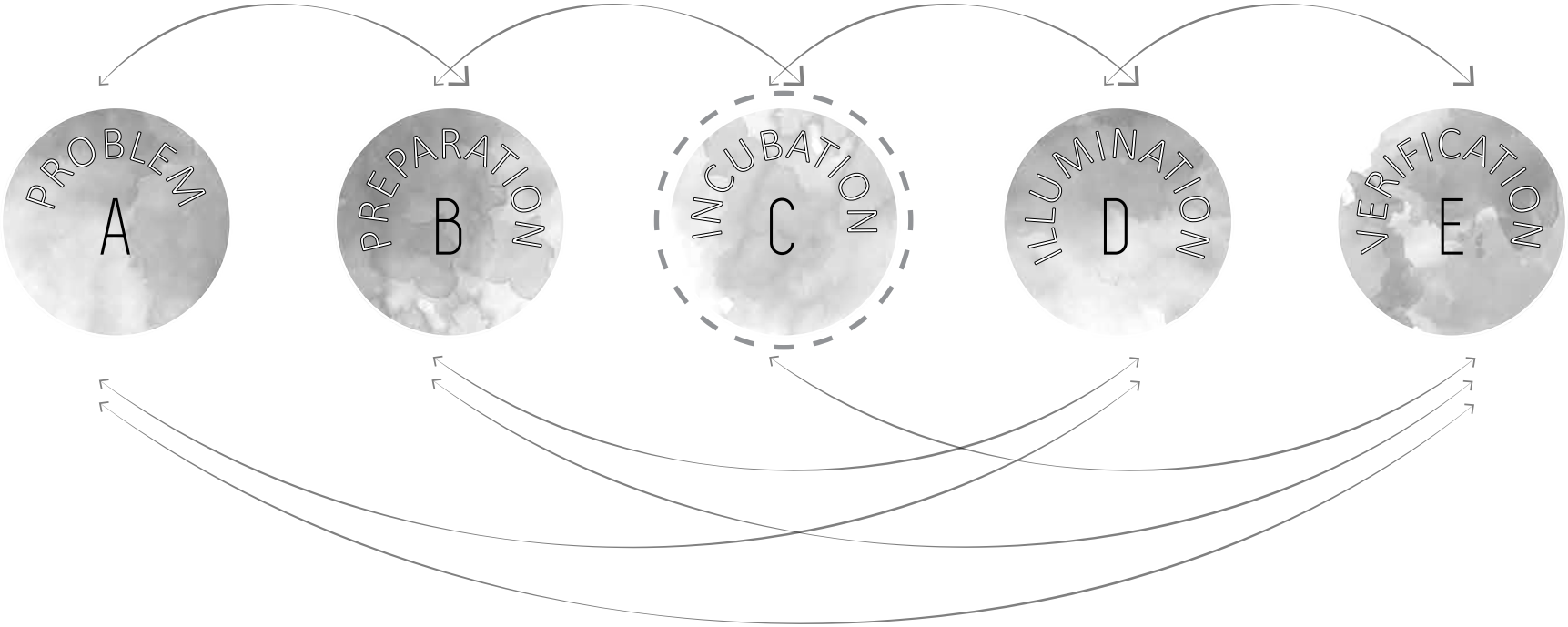


Figure 0.2
(Author, 2016)

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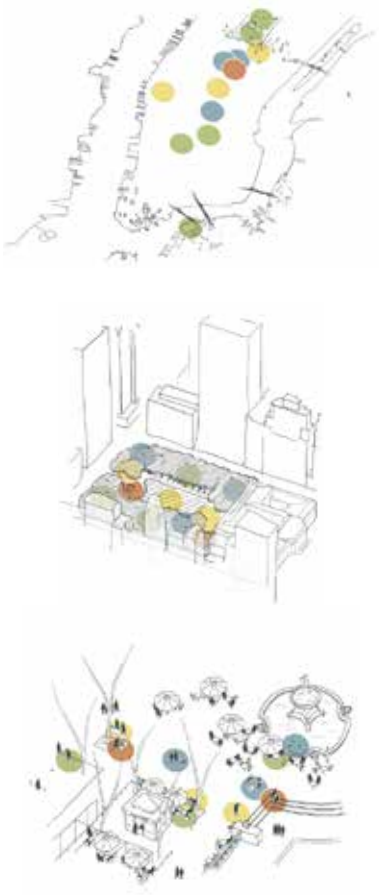


Figure 4.1
(Project for Public Spaces, 2016)

CHAPTER 04

THEORY

Chapter 4 discusses the theoretical underpinnings of the dissertation, exploring the capacity of the arts and creativity to contribute to placemaking and identity creation. The dissertation is driven by a response to heritage, as such, the theory of adaptive reuse is explored in relation to the context of Johannesburg, Joubert Park, and the Conservatory in particular.

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4.1_ SPACE TO PLACE

4.1.1_SPACE & PLACE

The world as we know it is composed of innumerable spaces. Specific physical characteristics and elements define space, which may be perceived objectively (Grütter, 1987). A fundamental issue facing architecture and urban design today is identity and a sense of belonging in space, especially in cities (Parsaee, et al., 2015).

Space and place are fundamental concepts in architecture, with theorists such as Heidegger and Norberg-Schulz maintaining that the purpose of architecture is to create space and places for dwelling and living (Parsaee, et al., 2015). A place is a space which has a distinct character, meaning and value as perceived by those dwelling in the space (Grütter, 1987).



Figure 4.2
The components constituting the creation of a sense of place (Author, 2016, adapted from Parsaee, et al., 2015)

In 'Genius loci : Towards a Phenomenology of Architecture', Norberg-Schulz (1980) discusses the importance of identity and sense of place in the perception of space. Architectural space is defined by the relationship between floors, walls and roofs, and interior and exterior environments (Grütter, 1987). Place, on the other hand, combines memory, sensory experience and narrative (Fakouhi, 2006). Places are a result of the interaction between humans and their physical spaces. Spaces facilitate movement, and places create pause and dwelling. Man only dwells when he experiences his environment as meaningful, thus, the spaces where life occurs are distinct places, with a unique identity (Norberg-Schulz, 1980) (Figure 4.2). The task of the architect is to create meaningful places in which people can dwell.

Place is a location containing events which facilitate essential common experiences between people (Carmona, et al., 2003). Humans exist in space, and interpret its components differently to create valid places for themselves, therefore having a continuous interaction with space and actively transforming it into place (Fakouhi, 2006). Thus, the character of a place is not a permanent condition, and undergoes transformation over time, resulting in a palimpsest of identity (Norberg-Schulz, 1980). So, the identity of place is constantly redefined with its evolution through time. As such, all places may be perceived differently by individuals, whilst the physical space may remain unchanged. This is witnessed in the constantly changing identity of Joubert Park and its subsequent loss of a sense of place by occupants.

4.1.2_JOUBERT PARK AS A SPACE/PLACE

As discussed in Chapter 3, Joubert Park has always been a significant space in the inner city as a green oasis in the dense urban fabric. However, Joubert Park's identity and sense of place has transformed throughout its existence and is currently diminishing. In order to revive the Park, past identities are embraced, as well as the future identity of the Urban Artscape. This is done by introducing interventions which encourage place-making.

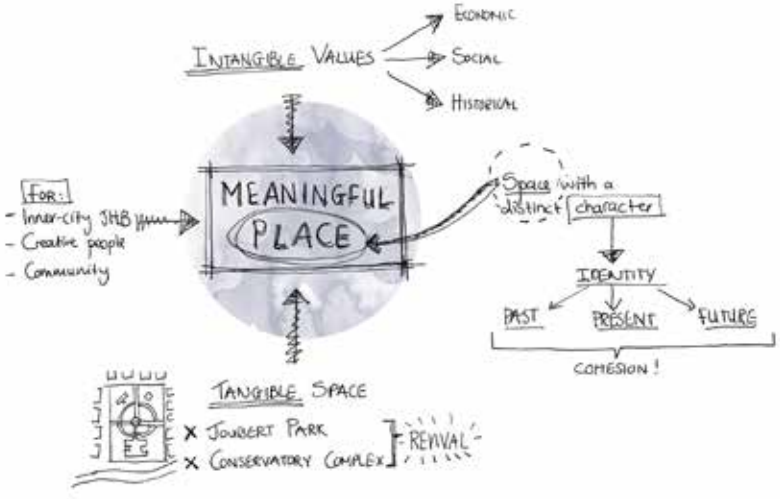


Figure 4.3
Mindmap for meaningful place in Joubert Park (Author, 2016)

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4.1.3_PLACEMAKING

Placemaking is the act whereby spaces become places. Architecture creates spaces that are visualised to become places. Project for Public Spaces (2016) developed a framework for thinking about place: 'The Power of 10', which says that a city ought to have 10 or more nodal destinations, and each destination should have 10 places, and each place should offer 10 activities, layered to create synergy (Figure 4.4).

In short, a great place offers a variety of activities that overlap to generate energy. Joubert Park is a nodal destination in the city that has the opportunity to house much more than 10 places, offering a multitude of activities. Placemaking in Joubert Park is vital to revive the space and maintain its identity as a meaningful place for dwelling and expressing oneself in the city. This drives community cohesion and allows people to exert their right to the city.

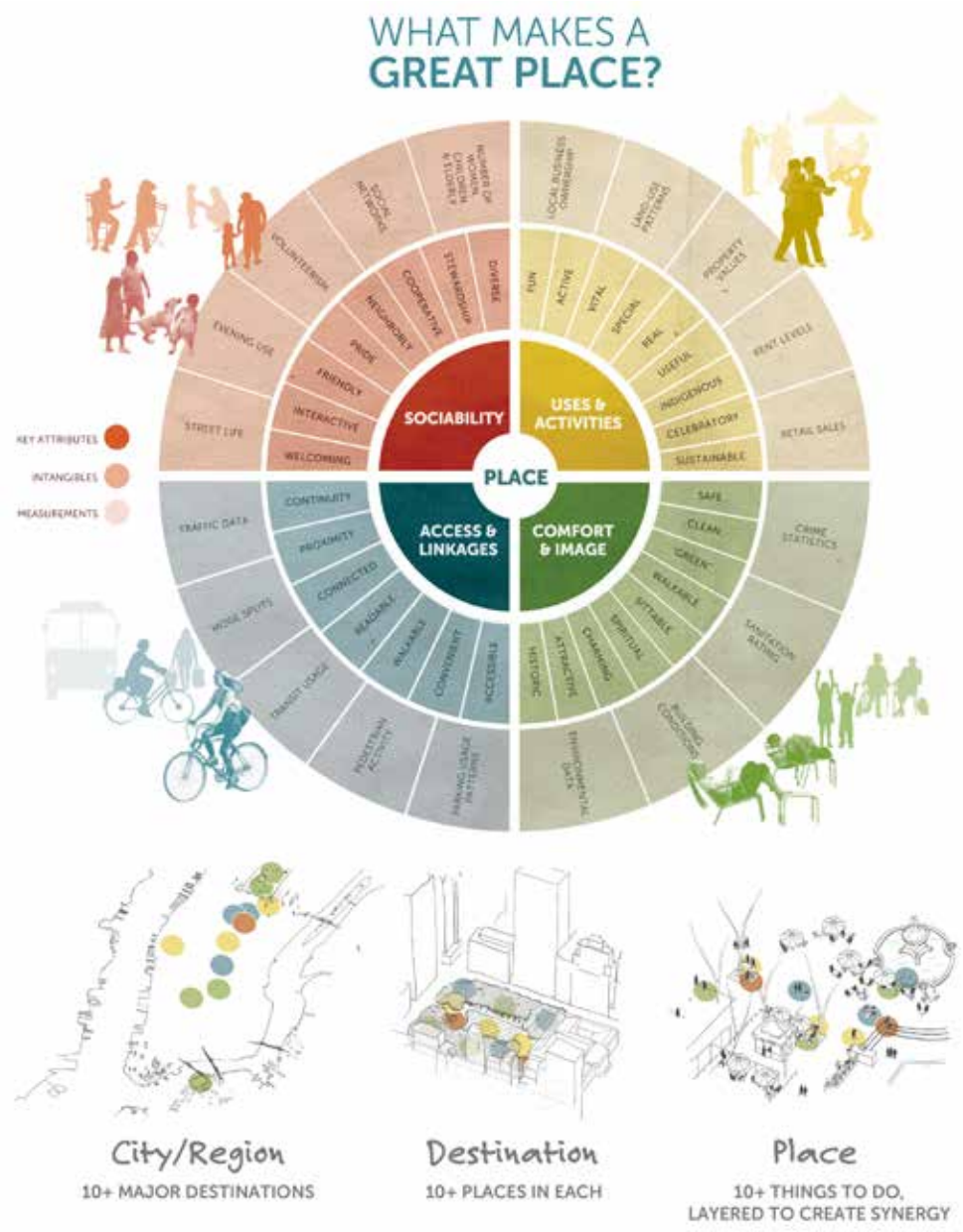


Figure 4.4
Diagrams illustrating the qualities of a great place and the concept of 'Power of 10' (Project for Public Spaces, 2016)

4.1.4_THE RIGHT TO THE CITY

Lefebvre (1974) theorised that space is actively produced by society, the 'mode of production.' All people have a right to the city, the freedom to make and remake their cities (Harvey, 2012). This human right is often neglected, and opportunities for all people to contribute to placemaking is especially vital in public space, which is a representation of diversity. Architects play an important role in spacemaking, but engagement with end-users and stakeholders is vital for the realisation of placemaking.

The Urban analysis considered the various stakeholders of Joubert Park, all of which have a right to the city and deserve the opportunity to define the identity of place in Joubert Park. Creativity is an important means of space creation and individual expression and is explored in the form of creative placemaking.

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4.2_ CREATIVE PLACEMAKING

4.2.1_A CREATIVE PLACE

Creative placemaking is the process whereby the physical and social identity of a place is strategically shaped around arts and culture activities by partners from the public, private, non-profit, and community sectors (Markusen & Gadwa, 2010).

'Creative placemaking animates public and private spaces, rejuvenates structures and streetscapes, improves local business viability and public safety, and brings diverse people together to celebrate, inspire, and be inspired (Markusen & Gadwa, 2010, p. 3).'

Creative placemaking is active, and often focuses on vacant and under-used spaces with potential, mobilising arts and culture to revive these areas. Joubert Park is a space with such potential and would reap the tangible and intangible benefits which come with successful creative placemaking, such as improved streetscapes, as well as the quality of life of residents.

A network of arts and culture facilities creates vibrant creative hubs which serve the community and attract visitors. Creative places foster entrepreneurs and support the cultural industry, job creation, and attract and retain professionals. The liveability and economic benefits of creative placemaking holds the potential to radically transform Joubert Park, Johannesburg's inner-city and the greater creative economy.

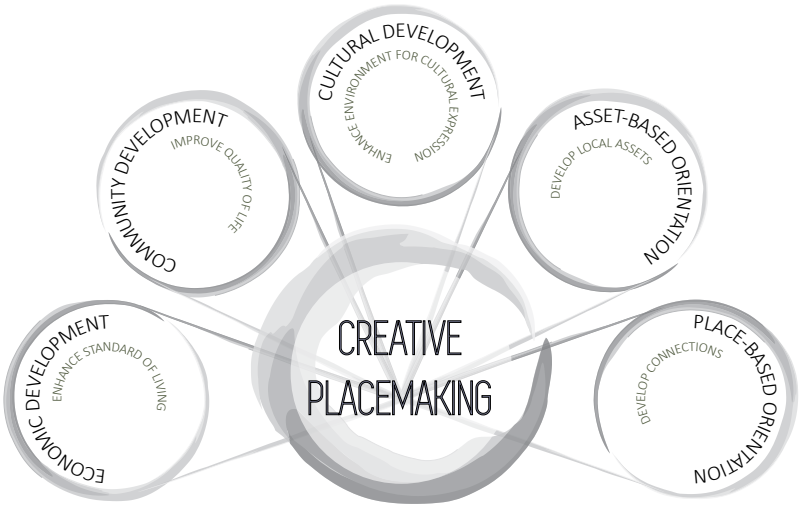


Figure 4.5
The steps to Creative Placemaking
(Author, 2016, Information from Vazquez, 2012)

4.2.2_PRECEDENT OF CREATIVE PLACEMAKING

Seattle: The City of Music

The transformation of Seattle from its 20th century anti-dance regulations into branding itself as a 'City of Music' in a notable example of creative placemaking. The twelve year initiative started by providing musicians with benefits such as a 'pay what you can' clinic, scholarships, and tax incentives. By 2008, the music industry generated over 20,000 jobs, $2.2 billion in sales and contributed to Seattle's identity as a youthful, creative place (Markusen & Gadwa, 2010).



Figure 4.6
Seattle - The City of Music (Author, 2016)

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4.2.3_THE CREATIVE ECONOMY

The creative economy relies on the imagination and talent of individuals to generate value and wealth and is comprised of three intersecting fields: places, industries, and workers, whose relationship is illustrated in Figure 4.7, summarising information from ERC Services (2002).

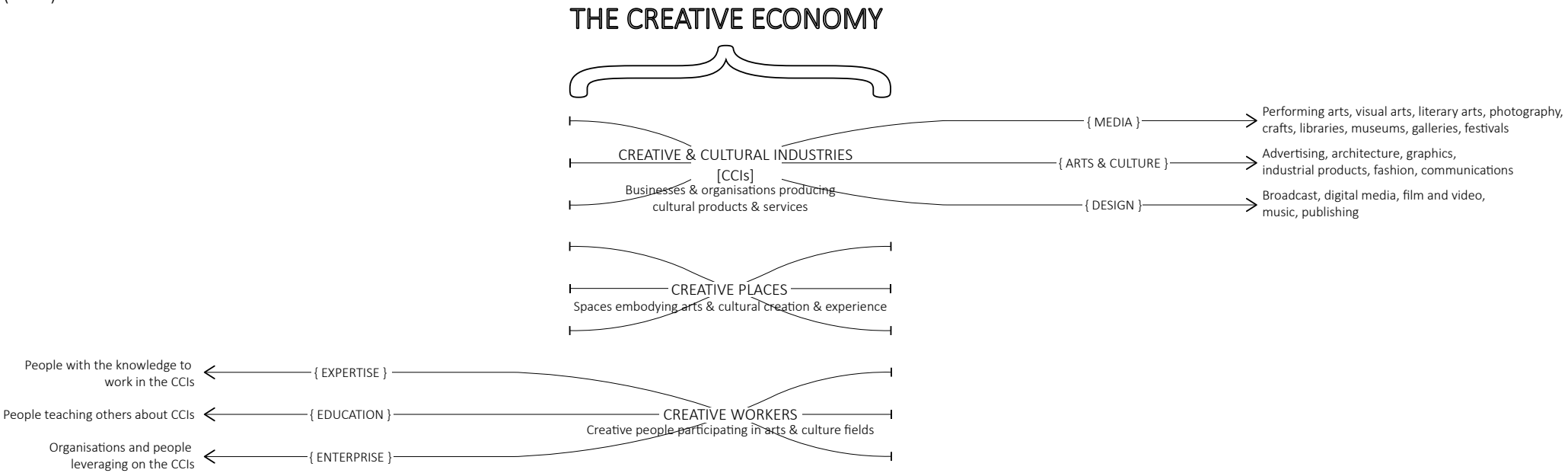


Figure 4.7
Facets of the Creative Economy (Author, 2016)

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4.2.4_CREATIVE CLUSTERS

When businesses falling under a common industry are located close together, it is known as clustering. Clustering of the Creative and Cultural Industries (CCIs) has high growth potential and job creation as it allows for the sharing services and knowledge spill overs between the different components of the industry (Figure 4.8).

The creative industries generate and exploit intellectual property to create jobs and wealth, using creative content for commercial ends. The cultural industries, on the other hand, while also related to creativity, are not defined by economic value, but rather by their social contribution to identity and shared values alongside individual creativity and expression (Enders Analysis, 2014).

Creative clusters facilitate a dynamic network of creative exchange, nurturing individual and collective identity whilst efficiently driving the creative economy (Chapain, et al., 2010). Creative placemaking is important for the development of a creative and culturally based city, which is the vision for Johannesburg.

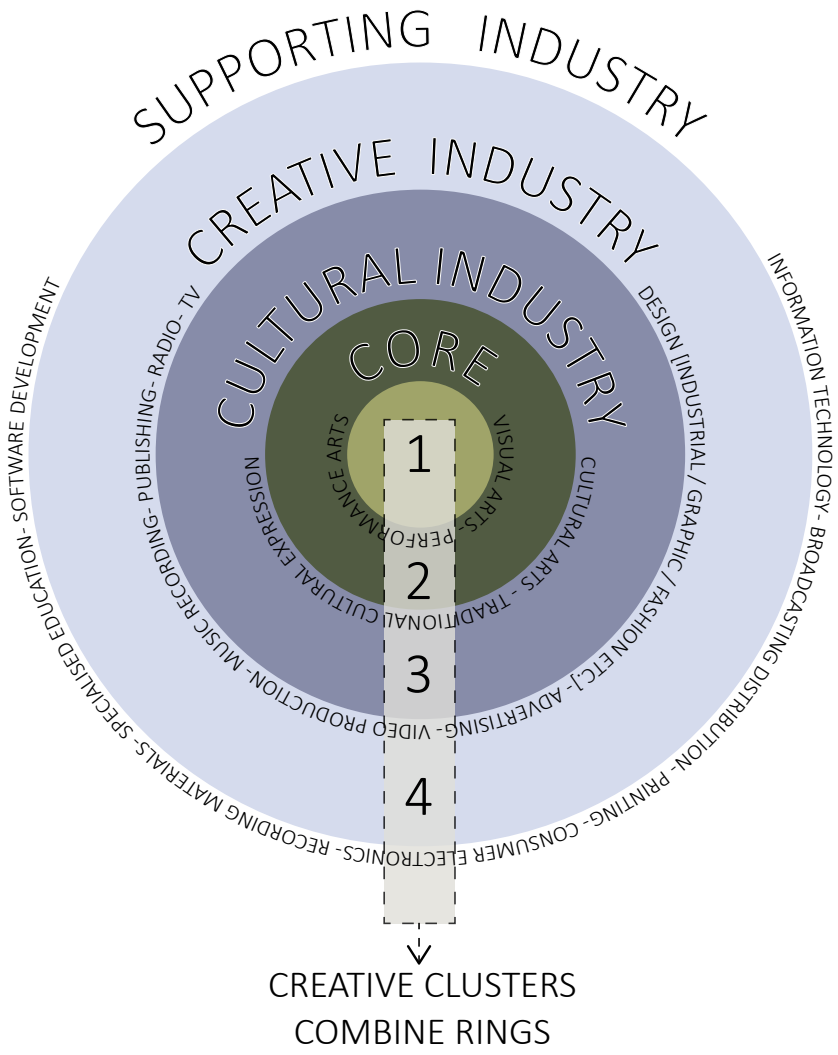


Figure 4.8
Components of Creative Clusters (Author, 2016, adapted from Ontario Ministry of Tourism, 2016)

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4.3_THE CREATIVE CITY

4.3.1_THE CITY CONDITION

'We are at our best and our worst in cities. It is fair to say that most of the big challenges we face, globally, are to be found in cities. So will their solutions (Kahn, et al., 2009, p. 7).'

The city is a dichotomy of the human condition. It is a place embodying innovation, progress and civic identity, but it is also where human challenges are concentrated: crime, poverty, corruption, and inequality. The good and bad characteristics of civilisation thrive in cities and co-exist. As Kahn, et al. states (2009, p. 7), 'everything propagates faster in cities: disease, fashion, ideas. The challenge for cities that aspire to be truly creative is how to connect these two stories of life in the city.' Cities are innovative spaces by nature, as all manners of people are exposed to one another's cultures and knowledge systems.

The city has always been a place of learning, a central knowledge system of libraries, universities, and museums. The integral ingredients for cultural creativity are plentiful in cities: diversity, density and proximity (Kahn, et al., 2009). Therefore, cities are dynamic places of culture and creativity, which can be mobilised through creative placemaking to drive positive development and help the city thrive.

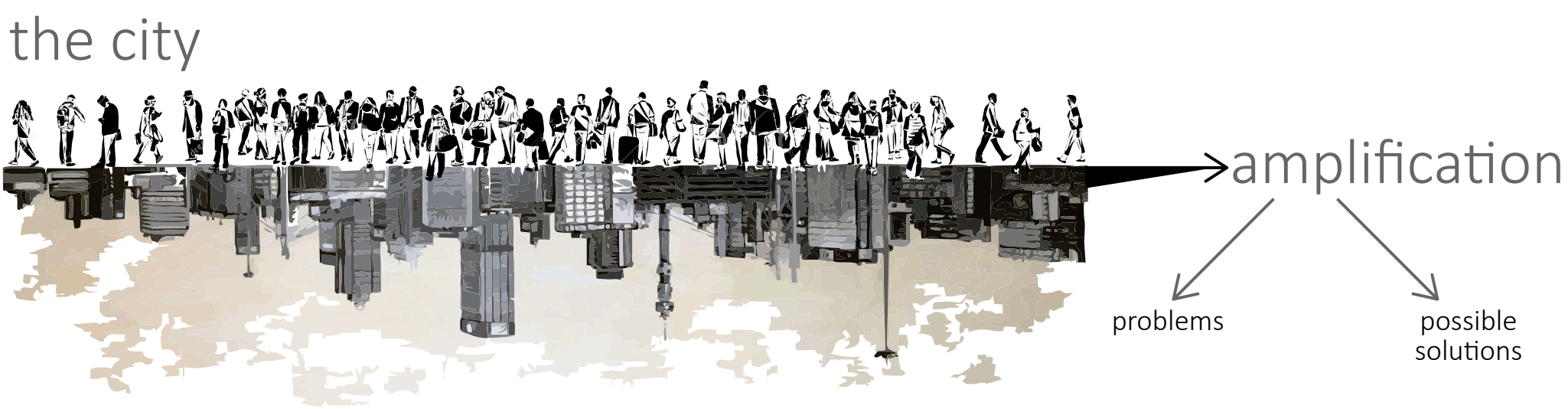


Figure 4.9
The City (Author, 2016)

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4.3.2_ THE CREATIVE CITY

4.3.2.1_Theory

Landry and Bianchini (1995) developed the concept of the Creative City, reflecting a new planning paradigm based on the transformative potential of culture and the creative industries in cities. Landry (2011) explains that enlightenment, empowerment, entertainment, and economic impact should be united in order for the Creative City to take root.

4.3.2.2_ Johannesburg as a Creative City

Johannesburg has the potential to be revitalised as a creative city by focusing on culture and the creative industries as drivers for development. This is important because cities possessing thriving creative and cultural sectors attract people and stimulate other knowledge sectors, driving economic and social development, which is so necessary in Johannesburg's inner city (Hall, 1998).

Joubert Park is an important node for the creative city, being the largest and most utilised green public space and home to JAG. Johannesburg's transition into a creative city will start with the development of various cultural nodes and iconic public spaces, as previously discussed, which will network and embrace the planning paradigm of the Creative City.



Figure 4.10
Johannesburg - The Creative City (Author, 2016)

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4.3.4_ PRECEDENTS OF CREATIVE CITIES



Figure 4.11
(UglyMely, 2013)



Figure 4.12
(Koltunova, 2015)



Figure 4.13
(Gray, 2012)



Figure 4.14
(Etard, 2016)

New York, Amsterdam, London, and Marrakech provide a global set of examples of well-developed creative cities that have mobilised culture and creative placemaking to develop their identity. Johannesburg has the benefit of being able to learn from these successful creative cities, and already possesses the ingredients for success: a dense and diverse cultural population and a rich tangible and intangible heritage to which interventions can respond.

4.3.4.1_New York, USA

New York is a vibrant, exciting creative city which recognises its creative sector as an important economic, social, and cultural asset. New York has an impressive creative economy that is outpacing more traditional economies such as finance and real estate (Forman, 2015). The creative sector is NYC's biggest competitive advantage and provides more of the nation's jobs than any other industry (Forman, 2015).

4.3.4.2_Amsterdam, The Netherlands

Amsterdam is a city alive with entertainment, museums, cultural events, and a wild nightlife. Amsterdam has multiple cultural identities within one city, making in an exciting urban environment to explore. The Netherlands is ranked second in the world for 'Creative Class Membership', with 46% of the workforce employed in creative fields (Gowling, 2013).

4.3.4.3_London, UK

London is characterised by its cultural diversity, which encourages the cross-fertilisation of ideas and makes the city an innovation hub (World Cities Culture Forum, 2016). London attracts a young global workforce and creative talent and provides numerous platforms for the exhibition of creativity, in the form of museums, galleries, and theatres.

4.3.4.4_Marrakech, Morocco

Marrakech is an authentic, inspiring creative North African city with vibrant design, fashion, modern art, and gastronomy sectors (Dupuis, 2014). Morocco's food, fashion, and creative culture is world-renowned, and Marrakech celebrates both their inherited and modern day creativity.

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4.4_ THE ROLE OF HERITAGE FABRIC IN PLACEMAKING

4.4.1_TANGIBLE & INTANGIBLE HERITAGE

All spaces have a palimpsest of identities, the layering of countless generations of people inhabiting a site, imbuing space with different characteristics and meaning. Tangible and intangible remnants of the past are inherited by the contemporary inhabitants, who unknowingly add their own layers and meaning in a continuous process. The intangible heritage may be the memory of the site, carried down from one generation to another, whilst the tangible heritage comes in the form of spatial interventions facilitating the making of meaningful place. This built heritage is a reflection of the needs of the people at that time, and as needs change, so must the use of these structures, lest they fade into obscurity, lose their significance, and decay.

Urban conservation is considered in this dissertation, and the value of heritage fabric in Johannesburg's pursuits to become an environmentally, socially, and economically sustainable city. Furthermore, the theory of adaptive reuse considers the role of cultural heritage in the making of space which is valid for today. Adapting built heritage to current needs and linking heritage conservation to the social agenda, contributes to sustaining the cultural continuity of the place and its historic features. This dissertation fits within the discourse of adaptive reuse, as a heritage structure inspired the project. As such, the theory is briefly explored.

4.4.2_URBAN CONSERVATION

The theory of urban conservation considers the preservation, regeneration and management of the historic built environment (Oxford Brookes University, 2012). Cultural heritage is regarded as valuable in pursuits of environmental, social, and economic sustainability as well as in placemaking and the maintenance of a unique identity of place within the globalised cultural milieu (Oxford Brookes University, 2012). This dissertation investigates the role of heritage fabric conservation in urban renewal and identity creation, inspired by the iconic Joubert Park Conservatory.

Urban conservation prolongs the life and preserves the integrity of significant built urban fabric with carefully planned interventions. Historic cultural resources are identified and protected with the aim of integrating with and contributing to present day contexts. Urban conservation is valid in Johannesburg, whose built environment provides insight into the development of the City and its evolution from a Victorian mining camp into an urban centre. This rich tangible heritage has the potential to spark urban renewal and inspire relevant programmatic and architectural responses to benefit the contemporary community.

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Figure 4.15
Tangible/Intangible (Author, 2016)

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4.4.3_ADAPTIVE RE-USE

4.4.3.1_The Theory

Adaptive reuse is a cultural heritage conservation approach in which buildings are altered to suit new needs (Plevoets, et al., 2011). Working with existing buildings and adapting them for continued use is an interesting topic within the architectural discipline. Buildings usually outlast the people who designed and needed them, and their reuse allows for continuity (Stone, 2005).

As Plevoets, et al. (2011) explains, altering existing buildings for new purposes is not a new phenomenon. In the Renaissance period, classical monuments were often changed to suit new functions and during the French Revolution, churches were transformed to fulfil military use and industrial functions. However, the adaption was not undertaken with heritage preservation in mind, but rather for pragmatic and financial reasons. A theoretical approach to adaptive reuse was established in the 19th century by Eugène Emmanuel Viollet-le-Duc, who noted it as a method of monument preservation and stated that 'the best way to preserve a building is to find a use for it (Plevoets, et al., 2011).'

It is the author's opinion that adaptive reuse projects ought to establish a symbiotic relationship between the heritage building and the new development, whereby they strengthen one another. Adaptive reuse of cultural heritage structures can be undertaken in such a way as to retain a remembrance of the former function and value, as the memory of its past is engrained within its very structure (Stone, 2005). Indeed, the exploration and development of memory may generate a composite of meaning and consequence. This results in cultural continuity (Figure 4.16) as the built heritage is adapted to support present social agendas.

Joubert Park's existing context within Johannesburg, as well as its heritage structures, spaces, activities and memories, offers opportunities for conceptual development. Appreciating and interpreting these qualities may provide inspiration for reuse and the addition of new layers inspired by the existing ones. Uncovering the meaning of Joubert Park and the Conservatory's palimpsest within its past, present, and possible future condition determines the strategies guiding the design decisions (Stone, 2005).

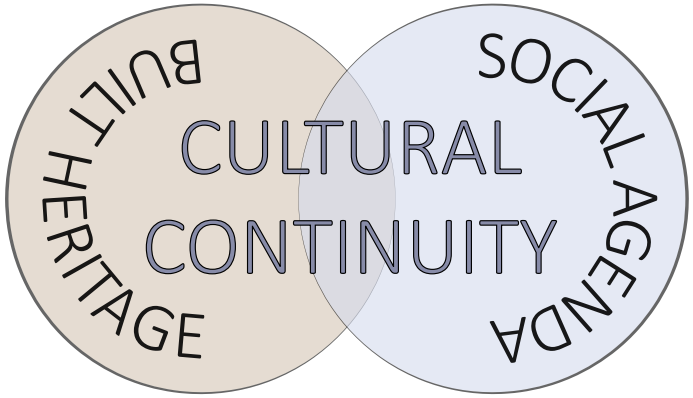


Figure 4.16
Cultural continuity is achieved when the built heritage of the past is able to fulfil roles for a present social agenda (Author, 2016)

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4.4.3.2_A Metaphor

Machado (1976, p. 46) uses the poetic metaphor of a palimpsest relating to the reuse of buildings.
In Machado's words:

'Remodelling is a process of providing a balance between the past and the future. In the process of remodelling the past takes on a greater significance because it, itself, is the material to be altered and reshaped. The past provides the already written, the marked 'canvas' on which each successive remodelling will find its own place. Thus the past becomes a 'package of sense', of built up meaning to be accepted (maintained), transformed or suppressed (refused).'

Joubert Park has a palimpsest of over a century of change and development. Each layer transforms the canvas of the Park, imbuing spaces with complex meaning and memory (Figure 4.17).

As Chapter 1 illustrates, Johannesburg has a rich tangible and intangible heritage which can be mobilised to revive parts of the city today, such as Joubert Park. Joubert Park's tangible built heritage reflects its intangible changing identity. Therefore, structures like the Conservatory, JAG, and the Bandstand can be reinterpreted to revitalise the public realm.

The Conservatory restoration and adaptive reuse is particularly significant because the once beautiful structure is falling into ruin as it is redundant to contemporary needs of the Park. This dissertation will reinterpret the Conservatory and use the symbiotic relationship between the old and new to work together in transforming the Conservatory Complex from an isolated space into a valued and exciting place. The inherent qualities of the Conservatory and its surroundings, combined with a new interpretation and use, enable the production of a complex, multi-layered space which is far richer than simply creating an intervention which is unresponsive to the Conservatory.

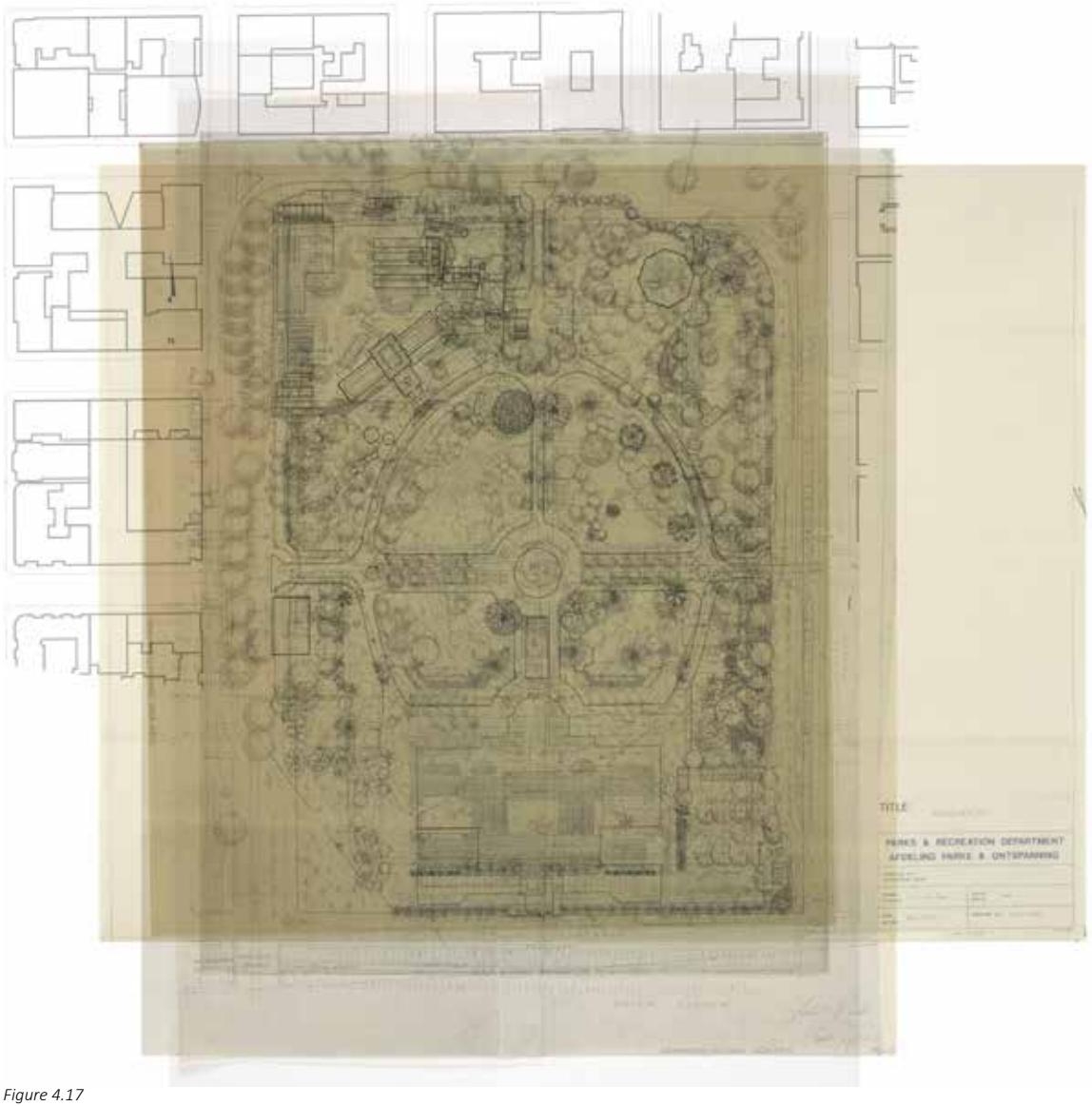


Figure 4.17
The palimpsest of Joubert Park created from JAG archives' heritage maps (Author, 2016)

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4.4.5_PRECEDENT_CONSTITUTION HILL

Hillbrow, Johannesburg
2001
OMM Design Workshop and Urban Solutions

DESCRIPTION

Constitution Hill is built on the Old Fort Complex and is the site of the Constitutional Court, the highest legislative authority of democratic South Africa (King & Flynn, 2014). Constitution Hill is a nation-building tool as it aims to restore justice to South Africa by locating democratic institutions on the relics of those that violated human rights. A place of brutality and oppression became the home to institutions underpinning human rights and a democratic constitution (King & Flynn, 2014).

The Old Fort Complex, built by the ZAR in 1892, is located in Hillbrow and has a layered heritage of human degradation and suffering experienced across all races, impregnating the Fort Complex with painful memory (South African Heritage Resources Agency, 2007). The Old Fort fell into ruin and was abandoned after its closure in 1983, and in 1996, the Old Fort Complex was announced as the new site for the Constitutional Court.

OMM Design Workshop and Urban Solutions developed a masterplan for Constitution Hill which used tangible and intangible heritage as primary design drivers. The Court is known as 'The Light on the Hill' not only for its towers built off Fort stairwell remnants, but also for its symbolism as a beacon for unity and human rights (Naidu, 2003).

RELEVANCE

Constitution Hill is an important precedent for adaptive reuse for Joubert Park, as it is also located in inner-city Johannesburg and responds to many of the same issues. The architects drew on heritage to inform a design that enriches its environment, where the old buildings in itself were fading into obscurity and had no value within its context.



Figure 4.18
The completed Constitution Hill Precinct (Constitution Hill, 2015)



Figure 4.19
The Great African Steps run between the Old Fort and the Constitutional Court, stitching the oppressive past, democratic present, and hopeful future of South Africa together through the poetic journey (Constitution Hill, 2015)



Figure 4.20
Craft (Constitution Hill, 2015)
Noble (2011) illustrates how the materiality of Constitution Hill took community participation into account by including crafted elements of artists and ordinary people, resulting in an accessible product.

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4.4.6_PRECEDENT_TURBINE HALL

Newtown, Johannesburg
2005-2009
TPS Architects

DESCRIPTION

Turbine Hall is an industrial building which initially formed part of the Jeppe Street Power Station built in 1927 (Newtown Heritage Trail, 2016). Turbine Hall was the largest of Newtown's 3 steam-driven power stations, but lost its importance in 1942 when a modern station was built in Orlando, Soweto. The plant shut down in 1961 and it became home to 300 squatters and its existence was threatened (Newtown Heritage Trail, 2016). Inner city renewal proposals revived Turbine Hall, and by 2009, the industrial heritage building had been transformed into a leading event venue in Johannesburg. Turbine Hall has hosted South African Fashion Weeks and the annual Turbine Art Fair, contributing to the arts and culture landscape of Newtown.

RELEVANCE

The restoration, preservation, and adaptive reuse of the industrial architecture of Turbine Hall is a relevant precedent for this dissertation. Creative placemaking has mobilised heritage architecture to revive a once obsolete building, adapting it to suit present day needs. Therefore, heritage is seen as a form of inspiration and a valuable resource. The Turbine Hall precinct celebrates the dialogue between old and new architecture and functions to give the building a new identity as an iconic function venue. This project serves as inspiration and an example of the possibilities of Johannesburg's forgotten heritage fabric to contribute to urban regeneration. The project also illustrates the power of cultural and creative placemaking to draw interest and energy to a previously isolated space. This dissertation likewise aims to mobilise Joubert Park's heritage and the creative potential of its community to contribute to urban renewal.

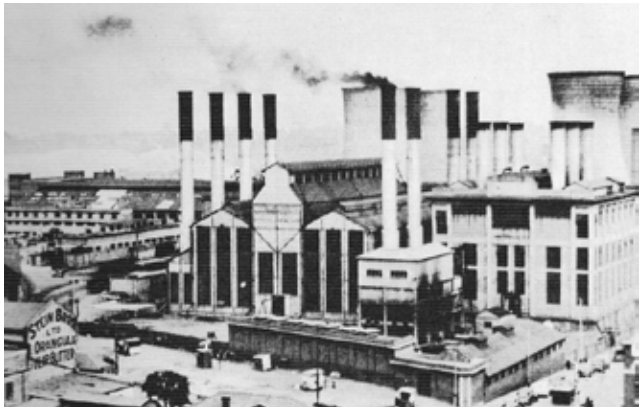


Figure 4.21
(Newtown Heritage Trail, 2016)



Figure 4.22
(The Forum Company, 2009)



Figure 4.23
(Lad & Lass Photography, 2014)

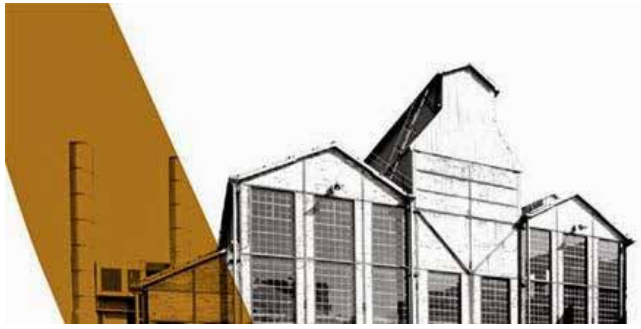


Figure 4.24
(Turbine Art Fair, 2014)

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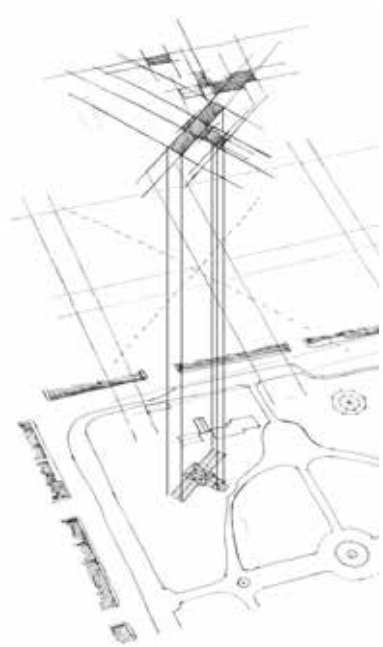


Figure 4.25
(Author, 2016)

4.5_ SYNOPSIS

Chapter 4 provides a theoretical background for the project resolution. A focus of the dissertation is reinforcing and reinvigorating the identity of Johannesburg as the Cultural Capital and Joubert Park as an Urban Artscape. In response to these aims, the Conservatory in the north west quadrant of Joubert Park is proposed as a site with the potential to mobilise its tangible and intangible heritage to revive its own civic value and contribute to the City's creative milieu.

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B_PREPARATION_Part 2

FURTHER INVESTIGATION OF THE PROBLEM'S DIMENSIONS

Creativity is a complex mechanism, and its stages are in constant interplay (Wallas, 1926). As such, a second round of preparation was undertaken following the incubation stage. The Conservatory Complex site was analysed in depth, preparing the author for the illumination and verification stages to come.

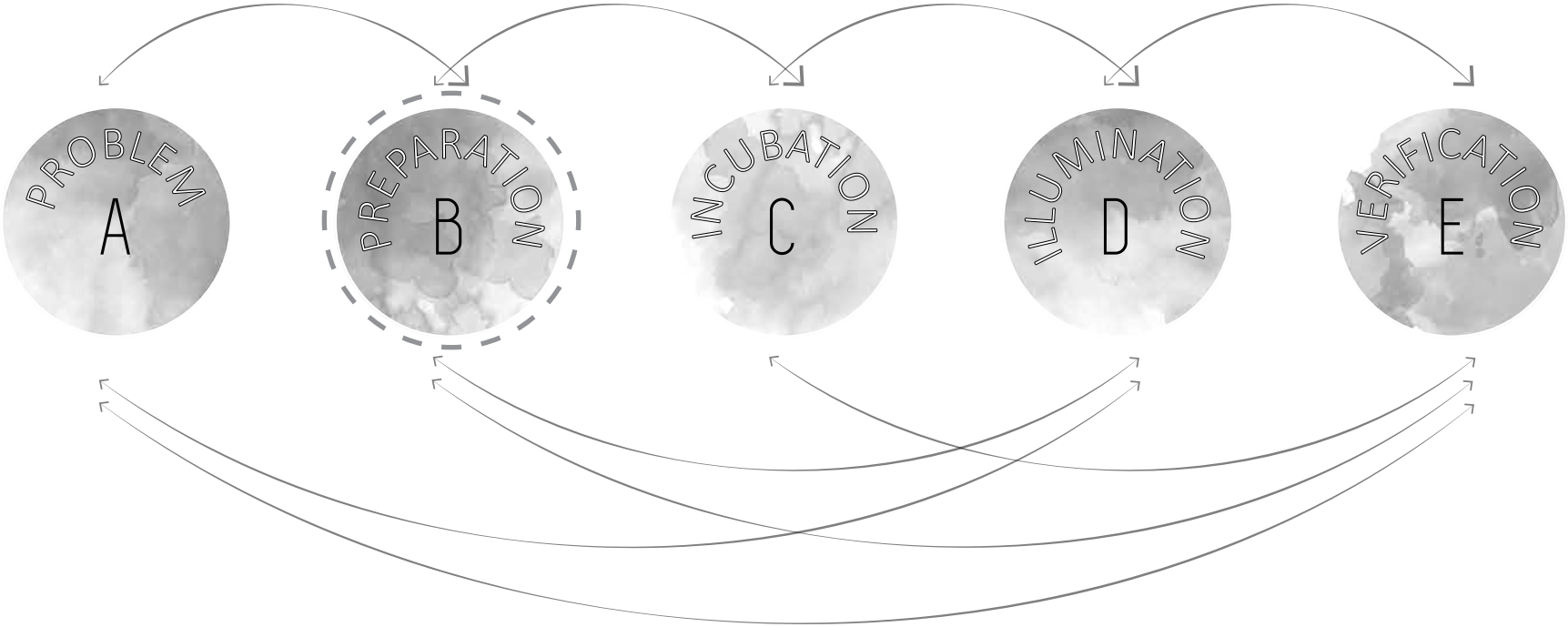


Figure 0.2
(Author, 2016)

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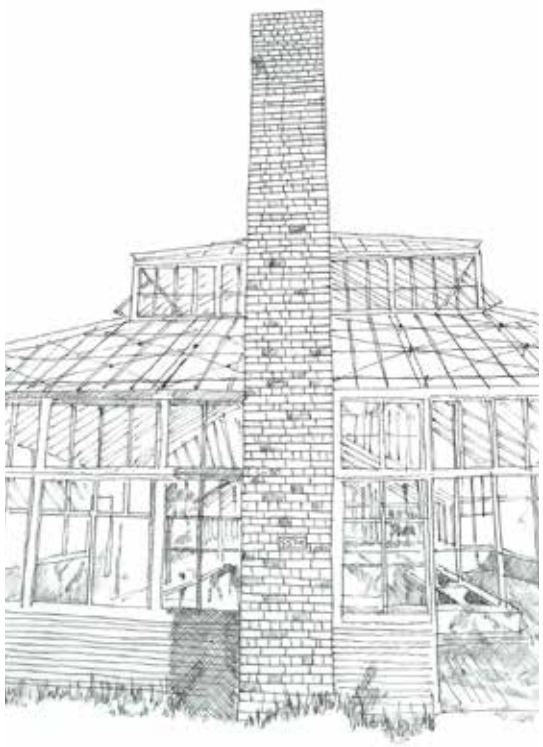


Figure 5.1
Sketch of the back of the Conservatory (Author, 2016)

CHAPTER 05

THE JOUBERT PARK CONSERVATORY COMPLEX

Chapter 6 investigates and analyses the heritage and site conditions of the Joubert Park Conservatory Complex (the quadrant of Joubert Park housing the Conservatory) through mapping exercises, desktop research, photographic studies, and site visits. The chapter will help inform the conceptual, programmatic, and design development.

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5.1 - THE JOUBERT PARK CONSERVATORY COMPLEX

5.1.1_BACKGROUND

Joubert Park was envisioned as a green space in 1890, but it now holds a network of activities including informal trade, community facilities, a chess club, and the general traffic of 20,000 monthly visitors. The park is a highly accessible oasis in the crowded inner city with 800,000 commuters passing through the general area every day (The City of Johannesburg, 2006). Over the years, Joubert Park has become a transit hub where crime, unemployment and homelessness co-exist with informal trade, dense commuter traffic, and a wide range of cultural activity (Paine & Gould, 2011).

The history of Joubert Park reflects the gradual occupation of public space by restrictive non-public uses, as well as increasing restrictions to accessibility and use. Privatised organisations in the Park which are fenced off from the public include:
-The Johannesburg Art Gallery (JAG) on the Southern edge.
-The Lapeng Crèche and Joubert Park Clinic in the NE corner.
-The Greenhouse Project and the Conservatory in the NW corner.

There is an opportunity to regenerate the Park through urban interventions which challenge the privatisation of public space, with a focus on the tangible and intangible heritage value of the area. The Joubert Park Conservatory has been identified as an iconic structure which may act as a catalyst for regeneration of the Park as a cultural space by aligning with the incentives of JAG and the City of Johannesburg.

The Conservatory is located in the NW corner of Joubert Park, Inner City Johannesburg. It is the third of its kind on the site, and was built in 1939 to replace the Victorian Conservatory of 1906. Over the years, the structure fell into decay and a restoration process was initiated in 2001. Due to funding problems, the restoration of the Conservatory and development of its precinct is, as of yet, incomplete, and unfortunately the structure is once again falling into disrepair due to inadequate maintenance and neglect.



Figure 5.2
Watercolour of Joubert Park heritage structures (Author, 2016)

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5.1.2_INTERPRETATION OF THE SITE

The Conservatory's narrative reflects an architecture of transformation and innovation, aimed at improving its environment. The fact that three versions of the Conservatory have existed on the same site is testament to the need of the building to adapt to fulfil its contemporary functions. The first conservatory was too small to house the plants required by Joubert Park, and so was replaced in 1906 by the larger Victorian Conservatory, which was a beautiful reflection of Victorian filigree, but was also demolished to make way for the current Conservatory in 1939, which boasted the latest glass and structural technology of Europe at the time.

All these conservatories had the same objective: to cultivate resources to enrich Joubert Park and the City. Thus, the site's character is interpreted as a space of cultivation: providing a place for the nurturing of valuable resources, which were plants in the past, but are reinterpreted in this dissertation to fulfil current needs of the Park and City. This dissertation project takes a site specific approach to understand the dimensions of the Conservatory Complex and aims to respect and respond to the tangible and intangible characteristics of the site's identity and essence of place. The notion of cultivation becomes and underlying theme of the dissertation, guiding the theoretical, conceptual, and architectural resolutions. Continuing the Urban Vision strategy, the identity of the Conservatory Complex will be tied to culture and the arts.



Figure 5.3
Sketch of the Conservatory (Author, 2016)

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5.2- MACRO CONTEXTUAL ANALYSIS

5.2.1_CONNECTIONS TO THE JOUBERT PARK CONSERVATORY COMPLEX

The Joubert Park Conservatory Complex is linked by roads to various nodes of the City. These nodes inform the nature of access routes to the site. Connections and interpretations by the author are as follows:

A] Klein St
Constitution Hill & Magistrates Court
Identity of Route: Justice & Order

B] Kind George St, South
The Linear Market
Identity of Route: Retail

C] Kind George St, North
Hospital Hill
Identity of Route: Health & Wellness

D] Leyds and Bok St
Park Station Transport Hub
Identity of Route: Commuting

E] Wolmarans St
End Street North Park and the University of Johannesburg
Identity of Route: Relaxation & Education

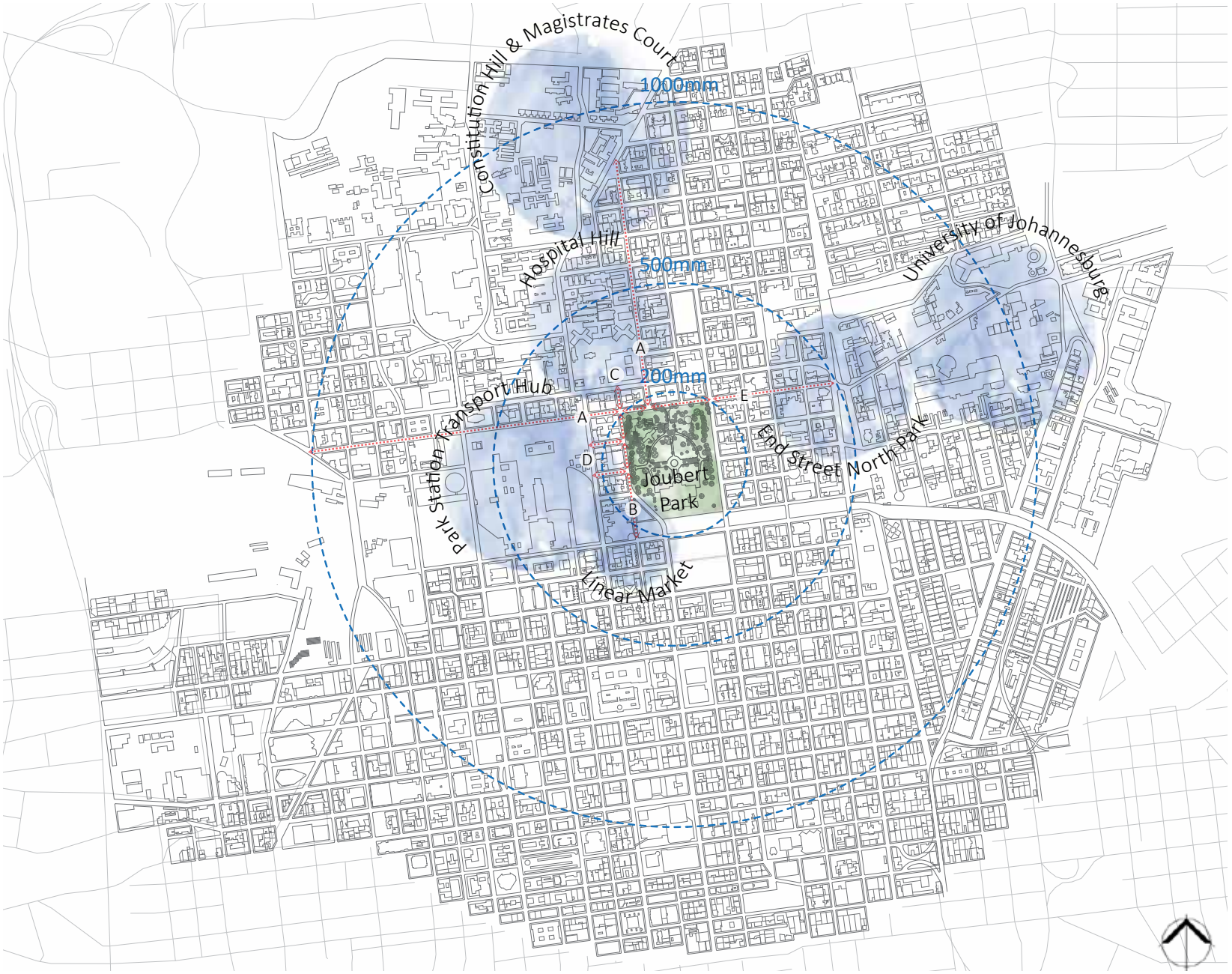


Figure 5.4
Diagramatic map of central Johannesburg indicating Joubert Park and the direct connections to nearby points of public interest (Author, 2016)

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5.2.2_CONTEXT WITHIN THE CITY

As illustrated in the adjacent aerial views, the Conservatory Complex has two different and distinct edge conditions: the northern and western edges are sidewalks, busy traffic, and tall residential blocks, while the southern and eastern edges are the soft, planted landscape of Joubert Park.

The Conservatory Complex may be perceived as lying at the crossroads of City and Park, built environment and natural environment, and any architectural intervention will have to respond to both contrasting conditions.

The Complex is also highly visible from the surrounding buildings, and is perceived as an extension of Joubert Park. Therefore, the Conservatory Complex has the opportunity to directly impact its context on a ground plane level, as well as indirectly from above.



Figure 5.5
Google Earth perspectives of Joubert Park, highlighting the Conservatory and noting edge conditions (Author, 2016, adapted from Google Earth Pro, 2016)

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5.3- MICRO CONTEXTUAL ANALYSIS

5.3.1_THE SETTING

An extensive physical analysis of Joubert Park's Conservatory Complex within its context was undertaken so as to understand the setting in which the dissertation project is rooted. Mapping of the micro context considered the measurement and position of all built fabric, as well as paths, trees, and informal trade stands. The blue arrows indicate the points of interest to which each street connects. Joubert Park's boundaries align to the grid layout of the City's streets and blocks, indicated on the map in red. The Conservatory, has its own axes, which are positioned so the main façade faces North West, the preferred orientation for a greenhouse in South Africa. The perimeter fence around the Complex has been mapped out and the formal entrances into the Park are indicated to show where people enter the space, as a low fence surrounds the Park boundary. The blue dots on the map show points where streets cross and the resultant pedestrian energy, of which the intervention ought to take advantage. The planning analysis is a subjective depiction of the physical fabric.

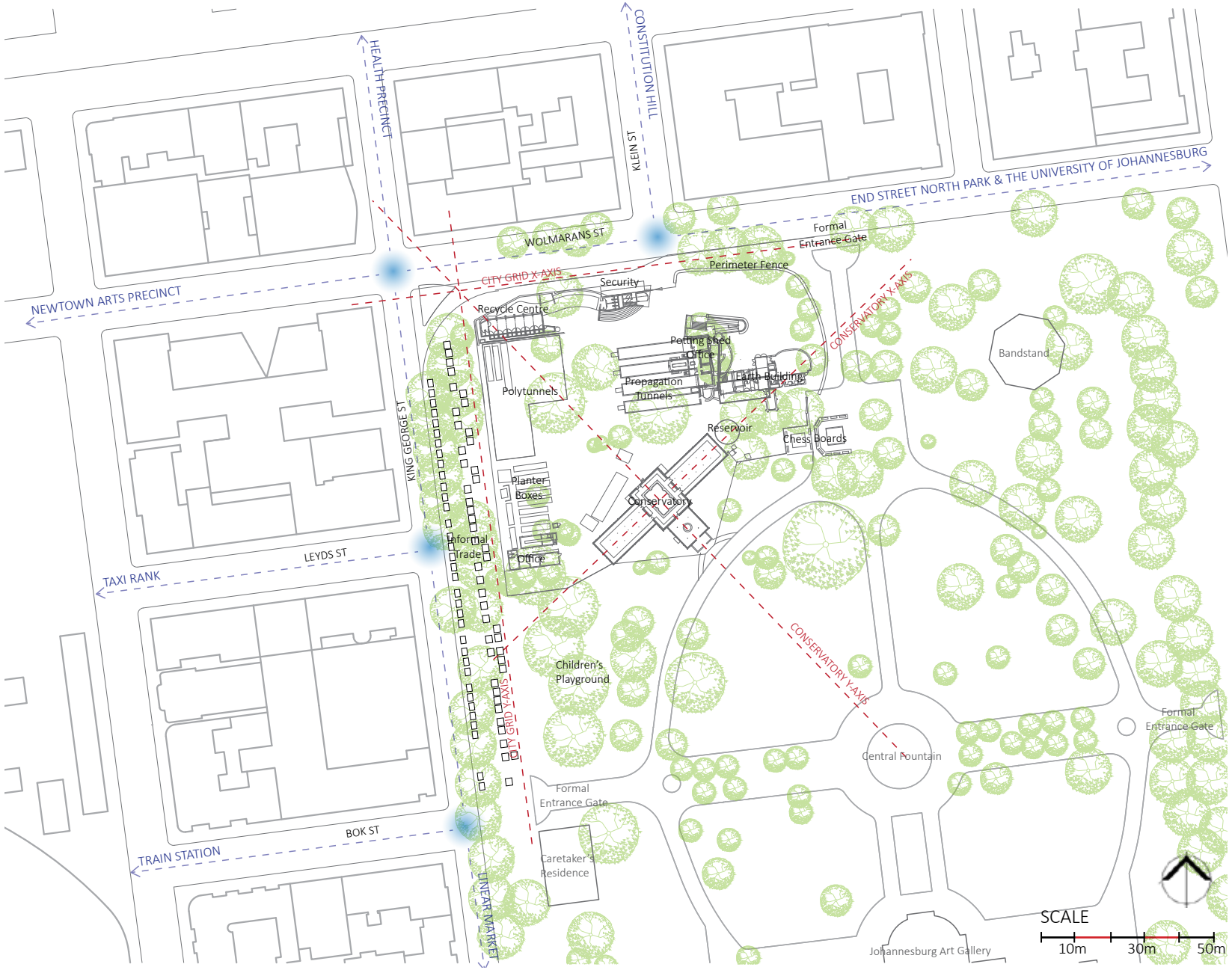


Figure 5.6
Micro mapping the physical fabric of the site (Author, 2016)

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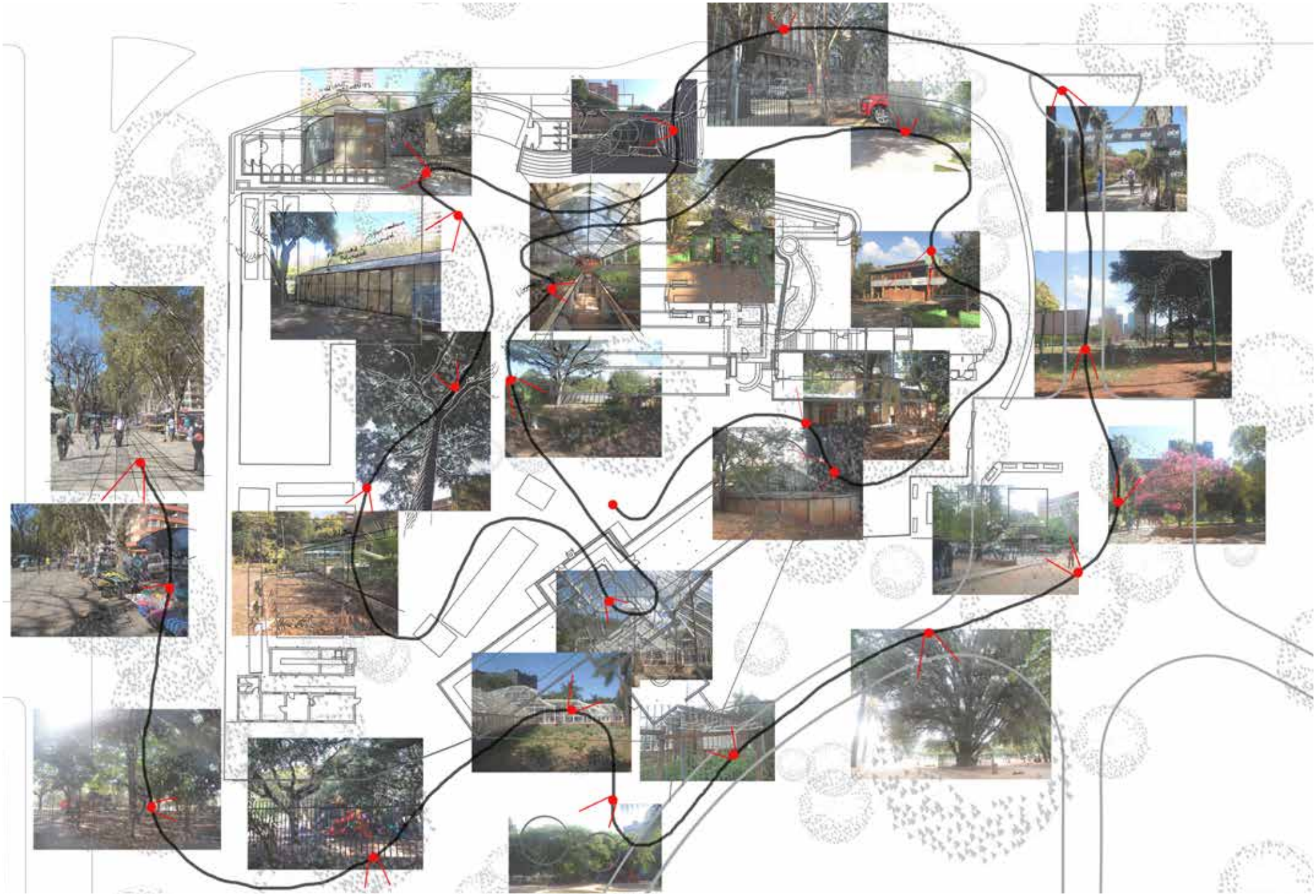






Figure 5.7
Panoramic photographs of the site with key maps (Author, 2016)

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5.3.2_PHOTOGRAPHIC ROUTE

A site visit route and the following photographic study provide valuable information regarding the quality of space. Photographs were traced and marked with notes to understand various geometries, views, and space qualities which became informants for the design process.

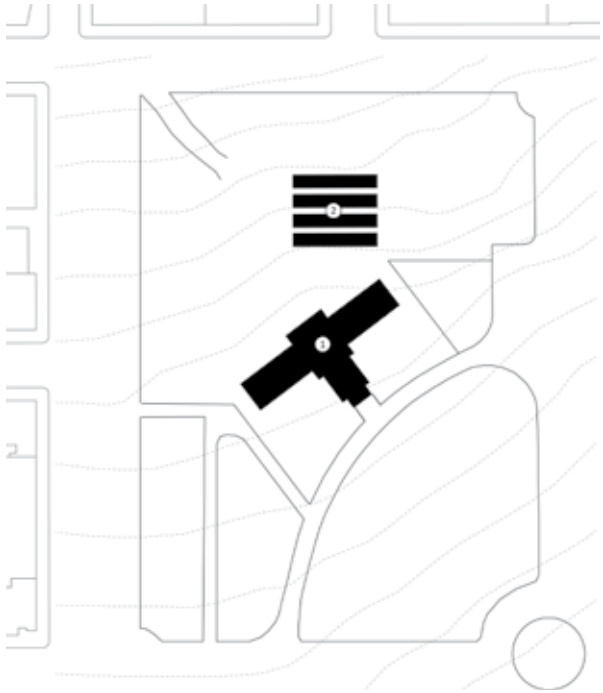
Figure 5.8
The author's photographic site study as she walked around the precinct (Author, 2016)



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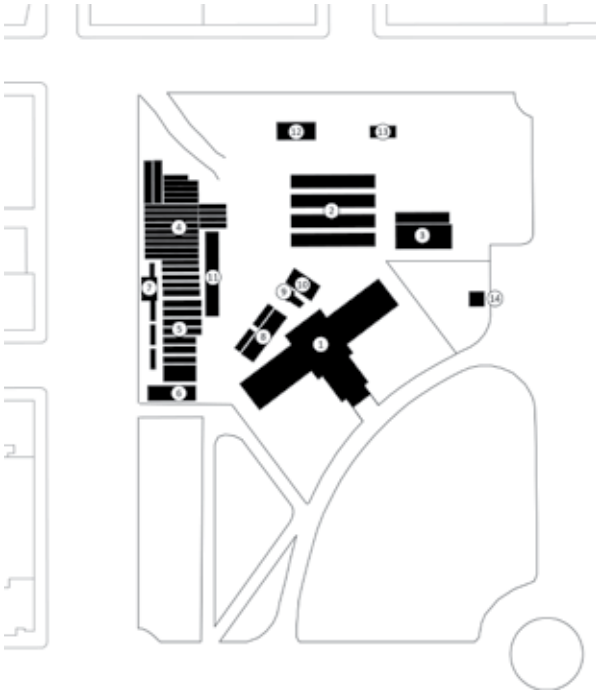
5.3.3_HISTORICAL ANALYSIS

The following diagrams illustrate the historic development of the Conservatory Complex. Information was sourced from the Johannesburg Art Gallery maps and archives.



1940

1 – Conservatory
2 – Propagation Tunnels



1952

1 – Conservatory
2 – Propagation Tunnels
3 – Orchid Greenhouse
4 – Shallow Planting Beds
5 – Deep Planting Beds
6 – Offices
7 – Shed
8 – Propagation Tunnels
9 – Brick Substation
10 – Prefabricated Store
11 – Propagation Tunnel
12 – Store Room
13 – Public Ablutions
14 – Medium Public Chess Board

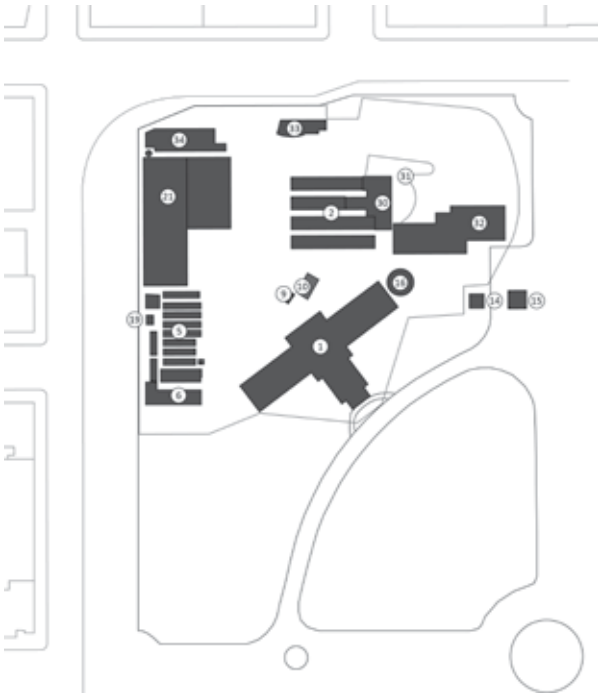
Figure 5.9
A series of diagrams illustrating the changes in the Conservatory Complex's physical fabric over time (Author, 2016)

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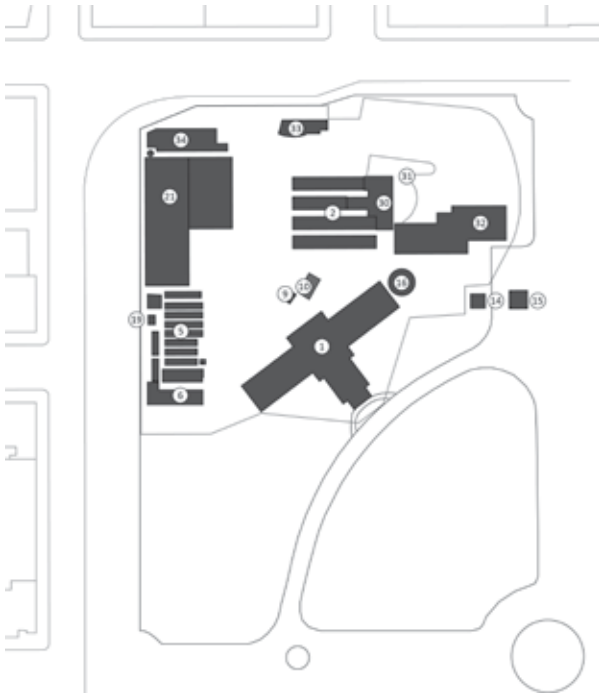
2001

1 – Conservatory
2 – Propagation Tunnels
3 – Orchid Greenhouse
4 – DEMOLISHED
5 – Deep Planting Beds
6 – Offices
7 – DEMOLISHED
8 – Propagation Tunnels
9 – Brick Substation
10 – Prefabricated Store
11 – Propagation Tunnel
12 – Store Room
13 – Public Ablutions
14 – Medium Public Chess Board
15 – Large Public Chess Board
16 – Reservoir
17 – Covered Open-sided Store
18 – Undercover Parking
19 – Prefabricated Ablution
20 – Shade Structure
21 – Polytunnels
22 – Prefabricated Store
23 – Prefabricated Change Rooms and Toilets
24 – Brick Poison Store
25 – Brick Toilets
26 – Security Hut
27 – Prefabricated Stores
28 – Prefabricated Storage Shed
29 – Steel Carport
30 – Potting Shed



2009

1 – Conservatory
2 – Propagation Tunnels
3 – DEMOLISHED
5 – Deep Planting Beds
6 – Offices
8 – DEMOLISHED
9 – Brick Substation
10 – Prefabricated Store
11 – Propagation Tunnel
12 – DEMOLISHED
13 – Public Ablutions
14 – Medium Public Chess Board
15 – Large Public Chess Board
16 – Reservoir
17 – DEMOLISHED
18 – DEMOLISHED
19 – Prefabricated Ablution
20 – DEMOLISHED
21 – Polytunnels
22 – DEMOLISHED
23 – DEMOLISHED
24 – DEMOLISHED
25 – DEMOLISHED
26 – DEMOLISHED
27 – DEMOLISHED
28 – DEMOLISHED
29 – DEMOLISHED
30 – Potting Shed
31 – Ramp and Stairs
32 – Earth Building
33 – Entrance Security
34 – Recycle Centre



2016

1 – Conservatory
2 – Propagation Tunnels
3 – DEMOLISHED
4 – DEMOLISHED
5 – Deep Planting Beds
6 – Offices
7 – DEMOLISHED
8 – DEMOLISHED
9 – Brick Substation
10 – Prefabricated Store
11 – DEMOLISHED
13 – Public Ablutions
14 – Medium Public Chess Board
15 – Large Public Chess Board
16 – Reservoir
19 – Prefabricated Ablution
21 – Polytunnels
30 – Potting Shed
31 – Ramp and Stairs
32 – Earth Building
33 – Entrance Security
34 – Recycle Centre

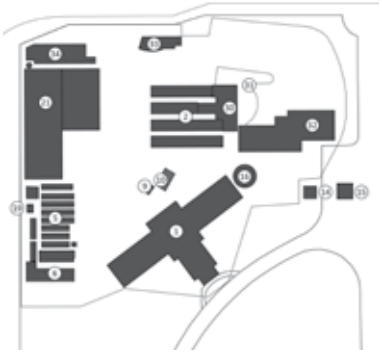
© University of Pretoria

5.3.4_EXISTING STRUCTURES

The Conservatory Complex houses various permanent and temporary structures, which have been added and removed from the Park depending on the requirements of those using the site. Most structures before the Greenhouse Project (2005) were built with the sole purpose of facilitating plant cultivation, such as greenhouses, propagation tunnels, stores, and services. The GHP added various buildings for administration and renting office space.

The South African Heritage Resources Agency (SAHRA) commissioned a heritage analysis of the Conservatory precinct in 2003 (CBS Architects, 2003). This was necessary to understand which structures on the site could be removed to make way for the new developments of the GHP.

The Report found that only the Conservatory was of important heritage value, especially in relation to its context in Joubert Park (CBS Architects, 2003). The propagation tunnels, which are the same age as the current Conservatory, are noted as medium heritage elements in a hugely dilapidated condition. The Orchard Greenhouse plinth was retained by the architects of the Greenhouse Project and used as a foundation for the new rammed earth building, although the author of this dissertation believes that the Greenhouse possessed heritage significance and ought not to have been demolished. The remaining structures on the site are not considered of heritage importance and the masterplan of the GHP suggested the removal of these buildings.





The Conservatory

Date: 1939
Present/ Past Use: Unused/ Greenhouse
Current State: Dilapidated
Historic Significance: Very High
Architectural Significance: Very High
Contextual Significance: Very High



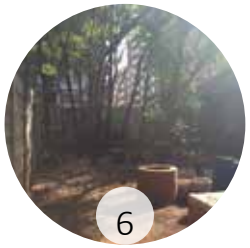
Propagation Tunnels

Date: 1939
Present/ Past Use: Unused/ Seedling Cultivation
Current State: Dilapidated
Historic Significance: High
Architectural Significance:Medium
Contextual Significance: High



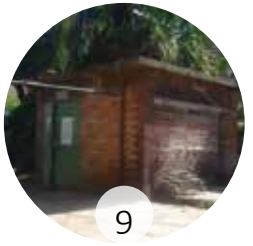
Planting Beds

Noted on Map: 1952
Present/ Past Use: Urban Farming/ Planting Beds
Current State: Dilapidated
Historic Significance:Medium
Architectural Significance: Low
Contextual Significance: High



Offices

Noted on Map: 1952
Present/ Past Use: Unused/ Offices
Current State: Good
Historic Significance: Medium
Architectural Significance: Medium
Contextual Significance: Low



Brick Substation

Noted on Map: 1952
Present/ Past Use: Storage/ Substation
Current State: Good
Historic Significance: Low
Architectural Significance: Low
Contextual Significance: Low



Prefabricated Store

Noted on Map: 1952
Present/ Past Use: Storage
Current State: Average
Historic Significance: Low
Architectural Significance: Low
Contextual Significance: Low

Figure 5.10
Photographs depicting the current physical fabric on the site and assessing condition and significance (Author, 2016)

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Chessboards

Noted on Map: 1952
Present/ Past Use: Chess
Current State: Good
Historic Significance: High
Architectural Significance: Low
Contextual Significance: High



Polytunnels

Noted on Map: 2009
Present/ Past Use: Unused/ Greenhouse
Current State: Very Poor
Historic Significance: Low
Architectural Significance: Low
Contextual Significance: Low



Earth Building

Date: 2009
Present/ Past Use:
Current State:Very Good
Historic Significance: Very Low
Architectural Significance: Medium
Contextual Significance: Low



Reservoir

Noted on Map:2009
Present/ Past Use: Reservoir
Current State: Good
Historic Significance: Medium
Architectural Significance: Medium
Contextual Significance: Low



Office

Date: 2009
Present/ Past Use: GHP Office/ Potting Shed
Current State:
Historic Significance: Medium
Architectural Significance: Medium
Contextual Significance: Medium



Entrance Security

Date: 2009
Present/ Past Use: Security Post
Current State: Very Good
Historic Significance: Very Low
Architectural Significance: Medium
Contextual Significance: Low



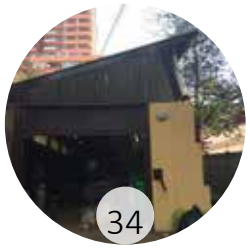
Prefabricated Ablution

Noted on Map: 1952
Present/ Past Use: Ablution
Current State: Poor
Historic Significance: Low
Architectural Significance: Low
Contextual Significance: Low



Ramp and Stairs

Date: 2009
Present/ Past Use: Office Access
Current State: Good
Historic Significance: Very Low
Architectural Significance:Low
Contextual Significance: Low



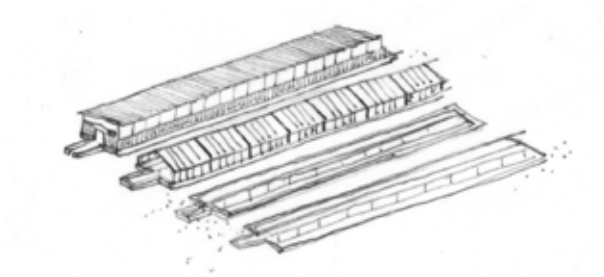
Recycle Centre

Date: 2009
Present/ Past Use: Recycle Centre
Current State: Good
Historic Significance: Very Low
Architectural Significance: Medium
Contextual Significance: Low

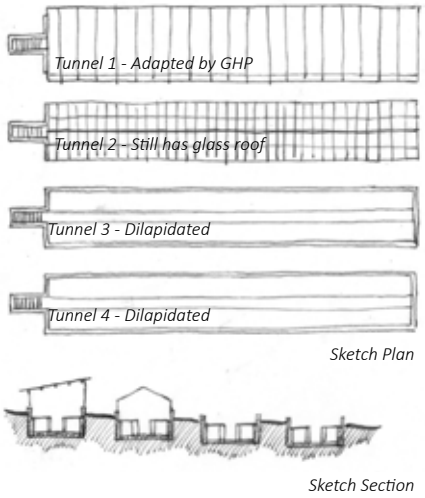
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5.3.4.1_Propagation Tunnels (2)

The Propagation Tunnels were built in 1939 to house the plants of the Victorian Conservatory while it was demolished and the new Conservatory constructed. The Tunnels are 1.5m below natural ground level and originally had glass roofs, much like the Conservatory built at the same time. Unfortunately, only one such roof remains intact and the other tunnels are merely abandoned tunnels in the ground, forgotten spaces and scars in the landscape.



Sketch of the tunnels



Sketch Plan

Sketch Section



Tunnel 2



Tunnel 3



Tunnel 4



Panoramic photograph indicating the position of the tunnels

Figure 5.11
The architecture, context, and current condition of the propagation tunnels (Author, 2016)

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5.3.4.2_The Conservatory (1)

The Conservatory is the most important heritage structure on the site, and although the current building was built in 1938, conservatories have occupied the site since 1893. The current Conservatory is built on a masonry support structure with tiling placed on flattened earth. The structure is of teak, which has been restored and painted white by the GHP. Tension cross-bracing steel supports the timber members and has been restored. Glass was removed during the restoration process, but has yet to be replaced completely and many panes which were installed are now shattered and damaged. Uncontrolled vegetation is invading the interior and damaging the architecture. The structure is fragile and further restoration is vital to maintain the building, which is the heart of the Complex.



Front View



Back View

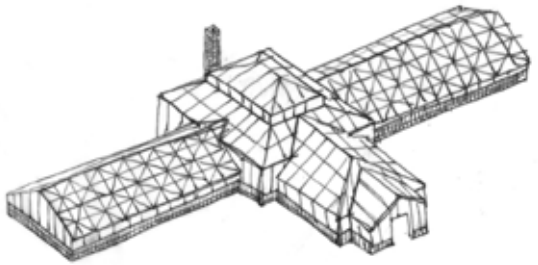


Interior View



Interior Panormaic of the Conservatory

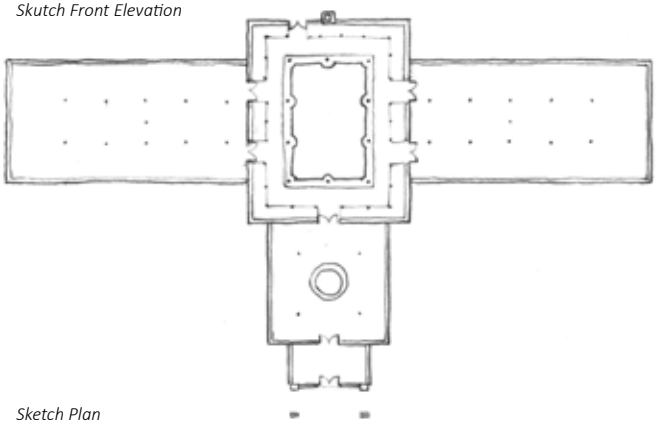
Figure 5.12
The architecture, context, and current condition of the Conservatory (Author, 2016)



Sketch of the Conservatory



Skutch Front Elevation



Sketch Plan

Sketch Cross Section

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5.3.5_HISTORY OF THE CONSERVATORY



The Victorian Conservatory
1906 - 1939



The Conservatory
Built 1939



The Derelict Conservatory
2001



Restoration of the Conservatory
2003 -2005







































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The Abandoned Conservatory
2016



The Conservatory was a place of wonder, with exotic plants hanging from the roof and beautifully planted flower beds. A central koi pond sparked the interest of children and adults alike, and the cultivated plants coloured the landscape of Joubert Park. The Conservatory was an event space, holding high teas, and a favourite backdrop for the park photographers. The memories are fading with the disintegration of the structure which once housed them.

Figure 5.13
Photographic Timeline of the Conservatory
(Author, 2016)

Figure 5.14
Sketch of the Conservatory and a large tree
(Author, 2016)



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5.3.6_SITE ANALYSIS MAPPING



Figure 5.15
Zoning
(Author, 2016)

5.3.6.1_Zoning

The Joubert Park Conservatory site is owned by the City of Johannesburg and currently managed by The Greenhouse Project (GHP), an independent non-profit organisation concerned with environmentally sound and socially just development within Johannesburg's civil society (Darroll, 2006). The Complex is completely fenced off from Joubert Park, with a single entrance through a grand gate off Wolmarans Street. The Complex houses multiple structures, some of which were built by the Greenhouse Project in 2004 using sustainable building techniques, and others which are remnants of past functions, such as the polytunnels on the western edge. The Conservatory exists as a partially restored, unused heritage structure and boundary in Joubert Park. Buildings adjacent to the site are small scale retail and there is a chess club and a children's playground, bringing activity to the area.



Figure 5.16
Significance & Landmarks
(Author, 2016)

5.3.6.2_Significance & Landmarks

The Conservatory Complex occupies a prime position in the landscape of Joubert Park, and the Conservatory structure is a landmark in space. However, its disconnection from the Park has diminished its significance. Various temporary structures are insignificant within the Park context and occupy valuable space while fulfilling no function.

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Figure 5.17
Trees
(Author, 2016)

5.3.6.3_Trees

The Conservatory Complex has beautiful trees, many of which have been there since the establishment of Joubert Park. The trees contribute to the making of spaces and the atmosphere of the site as an oasis in the city. Therefore, these trees are considered to have heritage value and will be important design drivers.

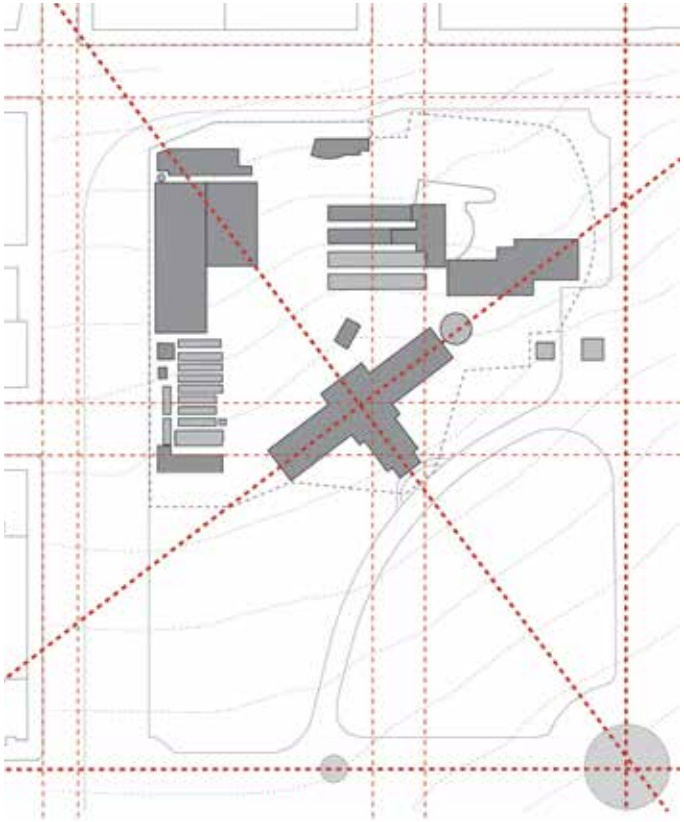


Figure 5.18
Site Geometry
(Author, 2016)

5.3.6.4_Site Geometry

The site lies within the structured street grid of Johannesburg. The Conservatory lies off this grid, so that the majority of its façade faces north west, the ideal position for heating a greenhouse. Other structures on the site respond to the City grid axes.

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5.3.6_SITE ANALYSIS MAPPING [CONTINUED]



Figure 5.19
Access
(Author, 2016)

5.3.6.5_Access

Controlled access into the fenced-off Complex is achieved through one gate on Wolmarans Street, which is guarded by a security point. As the site is located on a prominent corner of Joubert Park, potential alternative access into the site can be achieved through all sides.



Figure 5.20
Movement
(Author, 2016)

5.3.6.6_Movement

The site is fenced off from its context, so there is no free flow of pedestrians in the space. Once access is granted by security, movement within the complex site is undefined, with no pathways. The overgrown vegetation and uneven terrain limit access and many temporary structures, such as the polytunnels and storage sheds are boundaries to movement.

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5.4 - FUTURE RE-INVENTION

5.4.1_CBS Architects Masterplan

CBS Architects developed a masterplan for the Greenhouse People's Environmental Centre on the Conservatory site in 2001. Of the proposed buildings, only the earth building, the GHP office and the recycling centre were completed before funding became an issue. The Conservatory was also partially restored.

CRITIQUE OF THE MASTERPLAN

Positive Aspects:
- The planning considers the large heritage trees on the site.
- The Conservatory is the focus of the plan, with the new buildings framing it and a central courtyard.
- There are outdoor gathering spaces of different scales.
- There is cohesion between the elements on the site.
- Although the propagation tunnels are removed, the footprints are incorporated into the design.

Negative Aspects
- The site remains fenced off from the public and does not engage with the context.
- Forms do not respond to axes of the City grid or the Conservatory.
- The building materiality and language does not integrate well with its surroundings.
- The buildings do not activate the street edges or promote interaction.
- The chessboards, informal street trade, and the playground are not considered in the planning.
- The programming of the site is inappropriate within Joubert Park.

Verdict
The masterplan is perceived by the author to be inappropriate for the Joubert Park site, as it does not create valuable public spaces and is cut off from its context. The opportunity to engage with the community and affect real change within the city is squandered.

5.4.2_The Approach of this Dissertation

The architectural reinvention of the Conservatory and its Complex envisions its reintegration into Joubert Park and contribution to the urban environment as the Cultural Capital of South Africa. The Conservatory will be reconceptualised from a barrier into a gateway, inviting the public to engage with one another and the Complex.

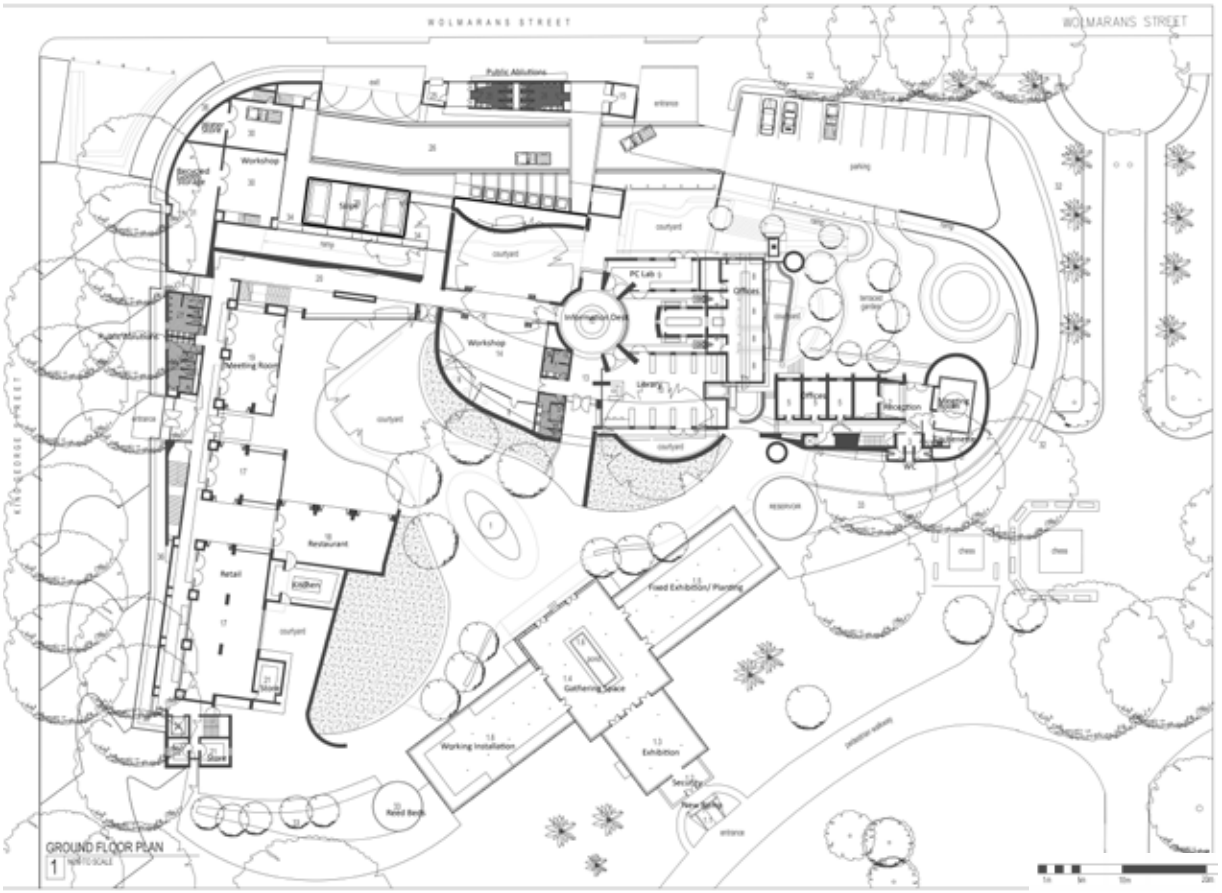


Figure 5.21
Masterplan for the GHP (CBS Architects, 2001)

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5.5 - THE CONSERVATORY TYPOLOGY

'Typology' in urban planning and architecture refers to the taxonomic classification of buildings. The conservatory typology has two distinctly different definitions as either an ornamental greenhouse or a school of the arts. The investigation into both interpretations finds the theme of cultivation to be the defining characteristic of a conservatory. This research allows for the reinterpretation of the Joubert Park Conservatory Complex, and informs the architectural intent and programme: a Creative Conservatory which supports the cultivation of creative thought and skills in inner city Johannesburg.

The following section studies the two typology definitions and various manifestations of conservatories across time and place, and their ability to cultivate.

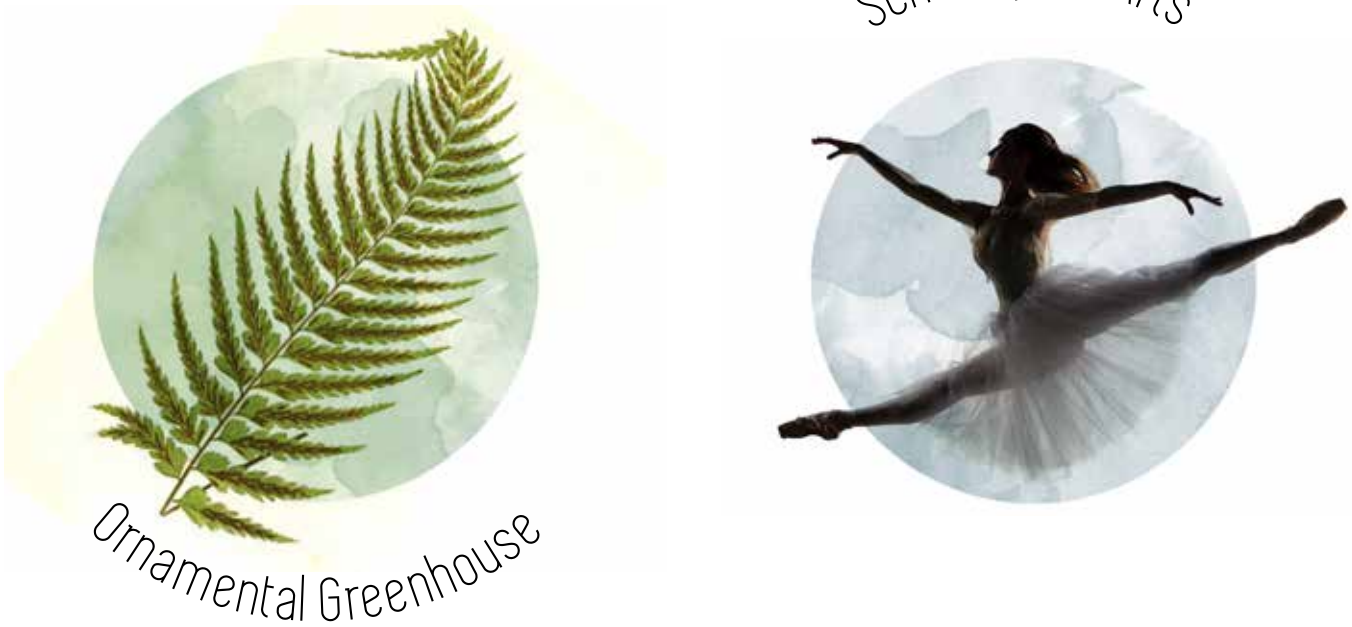
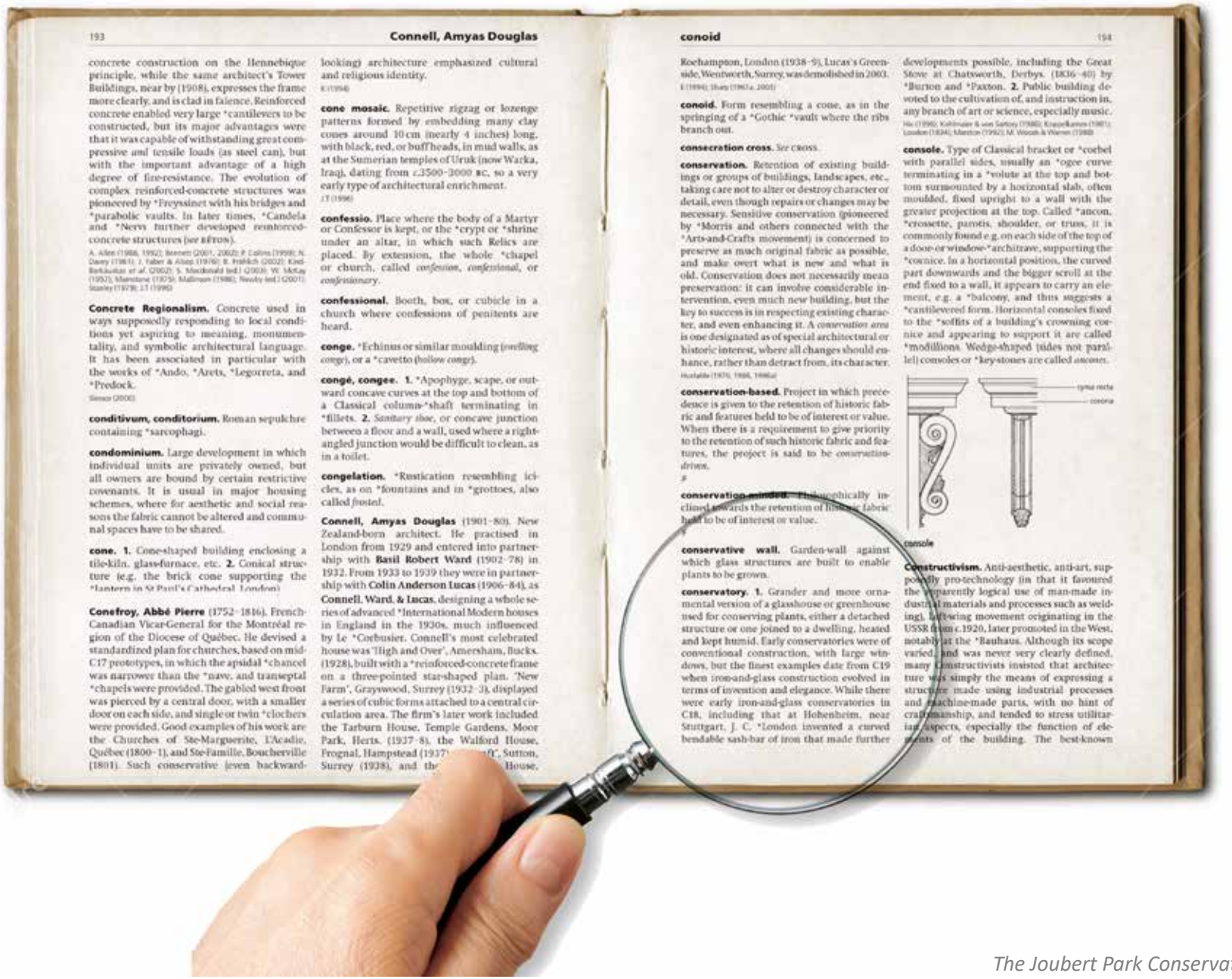


Figure 5.22
The two typologies of a conservatory
(Author, 2016)

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193 **Connell, Amyas Douglas**

concrete construction on the Hennebique principle, while the same architect's Tower Buildings, near by (1908), expresses the frame more clearly, and is clad in faience. Reinforced concrete enabled very large *cantilevers to be constructed, but its major advantages were that it was capable of withstanding great compressive and tensile loads (as steel can), but with the important advantage of a high degree of fire-resistance. The evolution of complex reinforced-concrete structures was pioneered by *Freyssinet with his bridges and *parabolic vaults. In later times, *Candela and *Nervi further developed reinforced-concrete structures (see SÉRVO).

A. Allen (1988, 1992); Bennett (2001, 2002); P. Collins (1998); N. Davey (1961); J. Faber & Alsop (1976); B. Fröhlich (2002); Kind-Barkauskas et al. (2002); S. Macdonald (ed.) (2003); W. McKay (1957); Mainstone (1975); Mallmann (1988); Newby (ed.) (2001); Stanley (1978); LT (1996)

Concrete Regionalism. Concrete used in ways supposedly responding to local conditions yet aspiring to meaning, monumentality, and symbolic architectural language. It has been associated in particular with the works of *Ando, *Arets, *Legorreta, and *Predock.

Simon (2000)

conditivum, conditorium. Roman sepulchre containing *sarcophagi.

condominium. Large development in which individual units are privately owned, but all owners are bound by certain restrictive covenants. It is usual in major housing schemes, where for aesthetic and social reasons the fabric cannot be altered and communal spaces have to be shared.

cone. 1. Cone-shaped building enclosing a tile-kiln, glass-furnace, etc. **2.** Conical structure (e.g. the brick cone supporting the *lantern in St Paul's Cathedral, London).

Conefroy, Abbé Pierre (1752–1816). French-Canadian Vicar-General for the Montréal region of the Diocese of Québec. He devised a standardized plan for churches, based on mid-C17 prototypes, in which the apsidal *chancel was narrower than the *nave, and transeptal *chapels were provided. The gabled west front was pierced by a central door, with a smaller door on each side, and single or twin *clochers were provided. Good examples of his work are the Churches of Ste-Marguerite, L'Acadie, Québec (1800–1), and Ste-Famille, Boucherville (1801). Such conservative (even backward-looking) architecture emphasized cultural and religious identity.

K (1994)

cone mosaic. Repetitive zigzag or lozenge patterns formed by embedding many clay cones around 10 cm (nearly 4 inches) long, with black, red, or buff heads, in mud walls, as at the Sumerian temples of Uruk (now Warka, Iraq), dating from *c.*3500–3000 BC, so a very early type of architectural enrichment.

LT (1996)

confessio. Place where the body of a Martyr or Confessor is kept, or the *crypt or *shrine under an altar, in which such Relics are placed. By extension, the whole *chapel or church, called *confessio*, *confessional*, or *confessionary*.

confessional. Booth, box, or cubicle in a church where confessions of penitents are heard.

conge. *Echinus or similar moulding (*swelling conge*), or a *cavetto (*hollow conge*).

congé, congee. 1. *Apophyge, scape, or outward concave curves at the top and bottom of a Classical column-*shaft terminating in *fillets. **2.** *Sanitary shoe*, or concave junction between a floor and a wall, used where a right-angled junction would be difficult to clean, as in a toilet.

congelation. *Rustication resembling icicles, as on *fountains and in *grottoes, also called *frostel*.

Connell, Amyas Douglas (1901–80). New Zealand-born architect. He practised in London from 1929 and entered into partnership with **Basil Robert Ward** (1902–78) in 1932. From 1933 to 1939 they were in partnership with **Colin Anderson Lucas** (1906–84), as **Connell, Ward, & Lucas**, designing a whole series of advanced *International Modern houses in England in the 1930s, much influenced by Le *Corbusier. Connell's most celebrated house was 'High and Over', Amersham, Bucks. (1928), built with a *reinforced-concrete frame on a three-pointed star-shaped plan. 'New Farm', Grayswood, Surrey (1932–3), displayed a series of cubic forms attached to a central circulation area. The firm's later work included the Tarburn House, Temple Gardens, Moor Park, Herts. (1937–8), the Walford House, Frognal, Hampstead (1937[illegible]0', Sutton, Surrey (1938), and the [illegible] House,

conoid 194

Roehampton, London (1938–9), Lucas's Greenside, Wentworth, Surrey, was demolished in 2003.

E (1994); Sharp (1982a, 2003)

conoid. Form resembling a cone, as in the springing of a *Gothic *vault where the ribs branch out.

consecration cross. *See* CROSS.

conservation. Retention of existing buildings or groups of buildings, landscapes, etc., taking care not to alter or destroy character or detail, even though repairs or changes may be necessary. Sensitive conservation (pioneered by *Morris and others connected with the *Arts-and-Crafts movement) is concerned to preserve as much original fabric as possible, and make overt what is new and what is old. Conservation does not necessarily mean preservation: it can involve considerable intervention, even much new building, but the key to success is in respecting existing character, and even enhancing it. A *conservation area* is one designated as of special architectural or historic interest, where all changes should enhance, rather than detract from, its character.

Hurtado (1970, 1988, 1988a)

conservation-based. Project in which precedence is given to the retention of historic fabric and features held to be of interest or value. When there is a requirement to give priority to the retention of such historic fabric and features, the project is said to be *conservation-driven*.

conservation-minded. Philosophically inclined towards the retention of historic fabric held to be of interest or value.

conservative wall. Garden-wall against which glass structures are built to enable plants to be grown.

conservatory. 1. Grander and more ornamental version of a glasshouse or greenhouse used for conserving plants, either a detached structure or one joined to a dwelling, heated and kept humid. Early conservatories were of conventional construction, with large windows, but the finest examples date from C19 when iron-and-glass construction evolved in terms of invention and elegance. While there were early iron-and-glass conservatories in C18, including that at Hohenheim, near Stuttgart, J. C. *London invented a curved bendable sash-bar of iron that made further developments possible, including the Great Stove at Chatsworth, Derbys. (1836–40) by *Burton and *Paxton. **2.** Public building devoted to the cultivation of, and instruction in, any branch of art or science, especially music.

Hix (1996); Kohlmaier & von Sartory (1986); Koppelkamm (1987); London (1804); Manston (1982); M. Woods & Warren (1988)

console. Type of Classical bracket or *corbel with parallel sides, usually an *ogee curve terminating in a *volute at the top and bottom surmounted by a horizontal slab, often moulded, fixed upright to a wall with the greater projection at the top. Called *ancon, *crossette, parotis, shoulder, or truss, it is commonly found e.g. on each side of the top of a door or window-*architrave, supporting the *cornice. In a horizontal position, the curved part downwards and the bigger scroll at the end fixed to a wall, it appears to carry an element, e.g. a *balcony, and thus suggests a *cantilevered form. Horizontal consoles fixed to the *soffits of a building's crowning cornice and appearing to support it are called *modillions. Wedge-shaped (sides not parallel) consoles or *keystones are called *ancones*.

console

Constructivism. Anti-aesthetic, anti-art, supposedly pro-technology (in that it favoured the apparently logical use of man-made industrial materials and processes such as welding), building movement originating in the USSR from *c.*1920, later promoted in the West, notably at the *Bauhaus. Although its scope varied, and was never very clearly defined, many Constructivists insisted that architecture was simply the means of expressing a structure made using industrial processes and machine-made parts, with no hint of craftsmanship, and tended to stress utilitarian aspects, especially the function of elements of the building. The best-known

Figure 5.23
Defining a conservatory (Author, 2016, adapted from Curl, 2006)

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5.5.2_ORNAMENTAL GREENHOUSE

A conservatory is an ornate greenhouse whose architecture combines form with function (Leung, 2016). Like a greenhouse, a conservatory nurtures and protects plants, but it is also a beautiful glass enclosed space for entertaining and relaxing.

Conservatory architecture can be versatile and beautiful, and interpreted differently throughout the world. The following case studies briefly illustrate the dynamic nature of the ornamental greenhouse, and all these conservatories are landmarks within their context, driving the making of space. These precedents contribute to understanding the latent potential of the Joubert Park Conservatory to define and contribute to the making of space.



Figure 5.24
(Munday, 2015)

5.5.2.1_Palm House

Location: Ireland's Belfast Botanic Garden
Architect: Charles Lanyon
Date: 1840

Palm House is the earliest curvilinear cast iron glasshouse in the world (Martin, 2015). This illustrates the innovation involved in the construction of conservatories. These greenhouses were constantly updated with the latest technology, as witnessed with the Joubert Park Conservatory being replaced 3 times.



Figure 5.25
(RGB Kew, 2015)

5.5.2.2_Temperate House

Location: London's Kew Royal Botanic Gardens
Architect: Decimus Burton
Date: Commissioned 1859

Temperate House is the largest Victorian glasshouse in the world and took over 40 years to construct (Martin, 2015). The form and functionality of the Temperate House inspired the Joubert Park Conservatory, and when it was completed, Kew Gardens gifted exotic plants to Joubert Park in celebration and as a symbolic connection between them (CBS Architects, 2003).



Figure 5.26
(Astrup, 2015)

5.5.2.3_The Palm House

Location: Botanical Garden, Copenhagen
Built by: J. C. Jacobsen
Date: 1874

The Palm House is Victorian Style conservatory with a grand entrance, clearly asserting its importance within its context. A beautiful lily pond reflects the structure, contributing to its precence in space. This precedent is relevant as it explores the sense of arrival and hierarchy in conservatory architecture, which needs to be addressed at the Joubert Park Conservatory as it is reintroduced to the Park.



Figure 5.27
(Polet, 2015)

5.5.2.4_Royal Greenhouses of Laeken

Location: Brussels
Architect: Alphonse Balat
Date: 1874/95

The Royal Greenhouses of Laeken are located in the Royal Park, which is not accessible to the public. A domed greenhouse known as the 'Iron Church' was used as the royal chapel. This illustrates that conservatories can served multiple uses, as the warm, green, beautiful interiors were also used for tea parties and events.

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Figure 5.28
(Martin, 2015)

5.5.2.5_Palm House

Location: Schönbrunn Palace Park in Vienna
Architect: Franz Segenschmid
Date: 1881/2

Palm House is an impressive iron conservatory which employed the most modern technology of the age. It is the largest glass house in continental Europe, composed of 45,000 sheets of glass housing three different climate zones (Martin, 2015). Palm House is a popular tourist destination, which demonstrates how heritage fabric can have a positive impact by attracting people to the area.



Figure 5.29
(Froese, 2015)

5.5.2.6_Muttart Conservatory

Location: Alberta, Canada
Architect: Peter Hemingway
Date: 1976

The four glass pyramids of the Muttart Conservatory are a landmark for the area and major tourist attraction (Martin, 2015). The unusual form of the Conservatory buildings is a reinterpretation of the classical Victorian designs shown in previous examples. The architectural language uses the same materials as 19th century conservatories but expresses them in a different way, which is also considered in this dissertation project.



Figure 5.30
(Adelaide Botanical Gardens, 2015)

5.5.2.7_Bicentennial Conservatory

Location: Adelaide Botanic Garden
Architect: Guy Maron
Date: 1988

Bicentennial Conservatory is a contemporary interpretation of a greenhouse, and is the Southern Hemisphere's largest single span conservatory (Martin, 2015). The sculptural form was informed by the climatic needs of the Australian context, reflecting direct heat gain, collecting outside water, and shedding interior condensate. A modern interpretation of the Joubert Park Conservatory should also be driven by the contextual condition of the Park and the community.



Figure 5.31
(Martin, 2015)

5.5.2.8_Greenhouses in the Botanical Garden of Curitiba

Location: Curitiba, Brazil
Architect: Abraão Assad
Date: 1991

This conservatory is an art nouveau style building resembling the Crystal Palace, and is a landmark and entry portal into the gardens (Martin, 2015). As the building is the gateway into the precinct, it is given hierarchical importance and defines the space beyond its boundaries. This dissertation explores this concept and the potential to activate the area around Joubert Park's Conservatory by asserting its importance in space.



Figure 5.32
(CNP Collection, 2015)

5.5.2.9_Tropicarium

Location: Palmengarten, Frankfurt

The Tropicarium is an ensemble of 14 modern conservatories. The greenhouses simulate climates around the world and have distinctive angular glass façades (Martin, 2015). This example illustrates the versatility of ornamental greenhouse architecture, and how it is adjusted to suit contemporary fashions.

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5.5.3_SCHOOL OF THE ARTS

Conservatories of the arts provide facilities to cultivate music, theatre, art, and dance practise through practical training and academic studies. The aim of these institutions is to develop human potential through the arts, which are considered vital in humanity's pursuit of personal growth and social cohesion. Conservatories may also offer career development advice regarding the creative arts and students are given the opportunity to exhibit and perform on a regular basis, informally and formally.

Conservatory architecture is often designed as a reflection of the character and mission of the school. The conservatories of the early 19th century reflect the opulence and importance placed on the arts and artistic education. The architecture of modern conservatories is often exciting and expressive, much like the artistic practises housed within. The following examples are explored to help the author understand what a conservatory within the Joubert Park context ought to be.



Figure 5.33
(Carlodell, 2012)

5.5.3.1_Conservatorio di musica di Milano

Location: Milan, Italy
Date: 1808

The conservatory is based in the cloisters of the baroque church Santa Maria della Passione and is now the largest music school in Italy. The Conservatory is over 200 years old, but remains relevant to this day as it continues to contribute to its community and society. Its content and student intake has adapted with its community, as should any facility wishing to endure.



Figure 5.34
(Packa, 2007)

5.5.3.2_The Prague Conservatoire

Location: Prague, Czech Republic
Date: 1811

Prague is a vibrant city with a rich musical life, which drives and is driven by its Conservatory (The Prague Conservatoire, 2016). This illustrates the symbiotic relationship between a cultural programme and a cultural place. If Johannesburg is to be the Cultural Capital, it will need supporting facilities, such as conservatories.



Figure 5.45
(Musical Opinion, 2016)

5.5.3.3_The University of Music and Performing Arts Vienna

Location: Vienna, Austria
Date: 1817

The Conservatory is an example of a facility that has grown exponentially through its success and popularity. The University now has 24 departments in 20 buildings and new layers of built fabric have been added to the original conservatory in response to the changing needs of those enrolled.



Figure 5.36
(Portzamparc, 1990)

5.5.3.4_Conservatoire de Paris

Location: Paris, France
Architect: Portzamparc Christian
Date: 1990

Conservatoire de Paris' architecture recognises the importance of adaptability in the creative environment. The building has adjustable performance spaces and the performers often exchange the classroom for the stage so as to have contact with the public. This interaction between students and the public is an inspiring digression from the classical conservatories of previous examples.

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Figure 5.37
(Wagenaar, 2016)

5.5.3.5_Conservatorium van Amsterdam

Location: Amsterdam, The Netherlands
Architect: De Architekten Cie
Date: 2008

Conservatorium van Amsterdam is a U-shaped building with the courtyard facing the cultural plaza. The cultural plaza and the building work together to generate vibrant creative spaces and engage students as well as the community in the creative arts. The design organises components vertically in clusters from collective to individual (ArchiTeam, 2013). This approach to clustering allows for cross-overs between different people and departments, which is also explored in this dissertation project.



Figure 5.38
(One Office Architects, 2009)

5.5.3.6_Juilliard School Expansion

Location: New York, NY
Architect: FXFOWLE Architects in collaboration with Diller Scofidio + Renfro
Date: 2009

Julliard's new building's entrance introduces performance to the street level and provides studios, rehearsal rooms, a black box theatre and offices. This precedent is relevant as it engages with the street edge, rather than enclosing and restricting artistic expression within its walls. Therefore, the public is able to experience the activity within and engage with the arts in an informal manner.



Figure 5.39
(Hueber, 2011)

5.5.3.7_The Royal Conservatory

Location: Toronto, Ontario, Canada
Architect: KPMB Architects
Date: 2009

The glass and steel of the Royal Conservatory's new addition dynamically contrasts with the colourful facades of the surrounding heritage buildings (The Royal Conservatory, 2016). The relationship between old and new in this precedent is valid as they are easily distinguished from one another, yet strengthen each other's presence in space.



Figure 5.40
(Ipswich Studios, 2016)

5.5.3.8_Boston Conservatory at Berklee

Location: Boston, Massachusetts, United States
Architect: Handel Architects LLP
Date: 2012

The building is an extension to the Boston Conservatory, which is the oldest performing arts conservatory in the nation. It has a large orchestra hall, dance studios, and practise spaces (Architizer, 2016). This is an example of a new extension to an existing heritage building which enables the Conservatory to serve the needs of the community. This illustrates that building must be open to adapt if they wish to remain relevant.



Figure 5.41
(Cerdan, 2015)

5.5.3.9_Nantes Conservatory

Location: Nantes, France
Architect: RAUM + L'Escaut Architectures
Date: 2015

The ground floor of the Nantes Conservatory has glass stacking doors that enable dance and music to spill out into a public courtyard and engage with an informal audience. The Conservatory defines interior and exterior space, providing different spaces for artistic and cultural expression. This dissertation project also considers various platforms of engagement and how architecture can facilitate expression.

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5.5.4_THE JOUBERT PARK CONSERVATORY

Past



ORNAMENTAL GREENHOUSE

The 19th century was the golden age of conservatories in Europe, driven by a love of gardening and the development of glass technology. Since its inception, Johannesburg intended to conform to images of western modernity (Bremner, 2000). As such, architectural fashions of the day were imported, such as the Conservatory at Joubert Park. The Conservatory was an ornamental palace filled with botanical wonder. The architecture and contents alike awakened the imagination and connected visitors to the Park and their European roots.

Present



ABANDONED CONSERVATORY

The Conservatory lies in a state of disrepair and abandonment, as its function as a greenhouse is no longer required. Once a landmark, it now fades into the background, hidden by overgrown vegetation and boundary fences.

Future

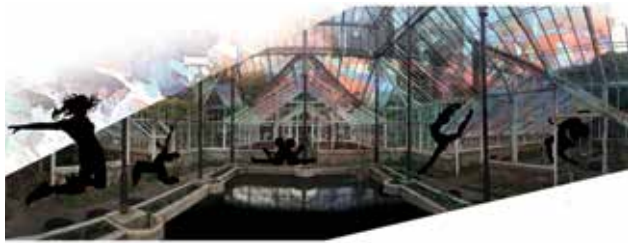


Figure 5.42
Sequence of the Conservatory's Past, Present & Future (Author, 2016)

CREATIVE ARTS CENTRE

The future of the Conservatory lies in rethinking the conservatory typology in inner city Johannesburg. This dissertation aims to connect the Conservatory to its neighbour, JAG, by introducing a creative arts theme. Thus, the alternate definition of a conservatory as a place of the arts becomes a programmatic driver. The creative theme stitches the fragments of Joubert Park's landscape.

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Figure 5.43
Sketch of the Conservatory's interior
(Author, 2016)

5.6 - SYNOPSIS

The Conservatory Complex presents an exciting opportunity to engage with an abandoned heritage structure and reinvigorate the precinct spatially by including the public in the programming of the space. The typology of a conservatory needs to be rethought within the context of Joubert Park and Johannesburg so that the new architectural intervention is appropriate, while respecting the rich heritage of the site.

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D_ILLUMINATION

THE MOMENT OF INSPIRATION & IDEA FORMULATION

The Third Stage of the Creative Process, according to Wallas (1926), is illumination. Information gathered in the preparation stage which floated freely in the mind in the incubation stage while other theories were considered, fall into place providing the basis for the creative response.

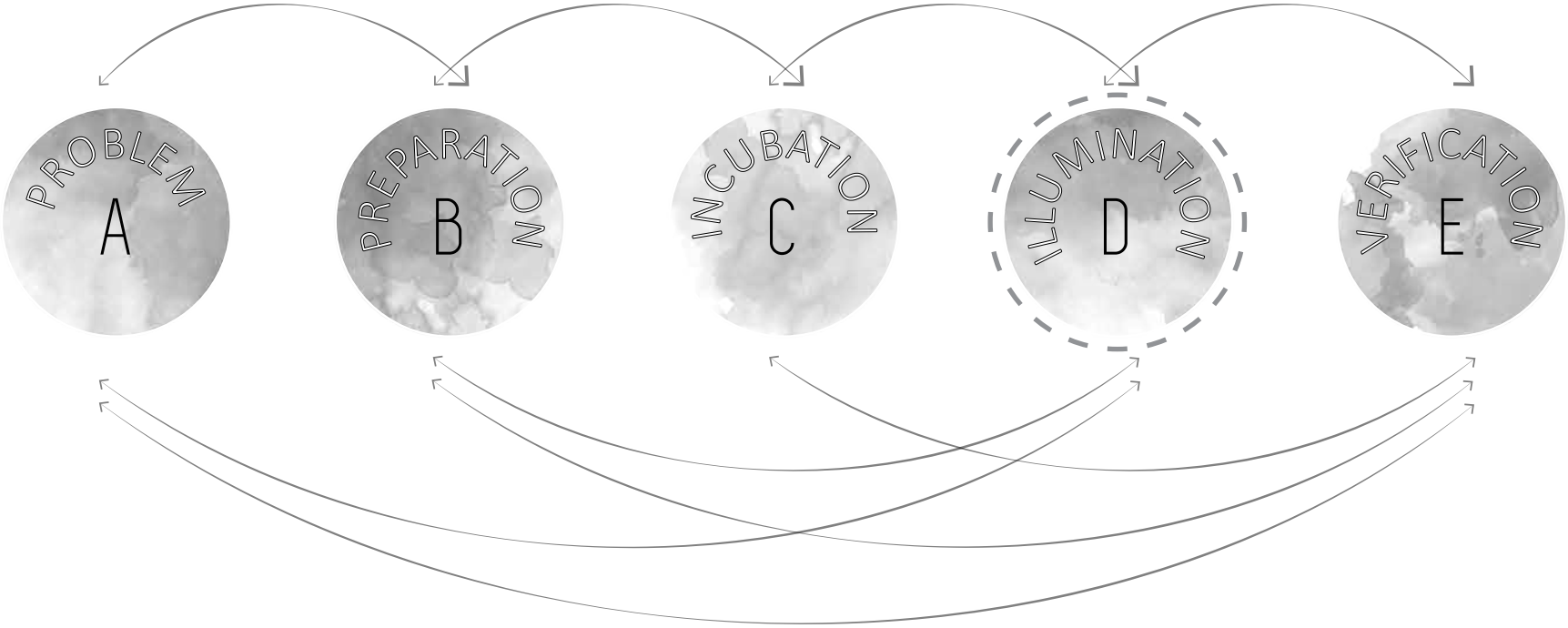


Figure 0.2
(Author, 2016)

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Figure 6.1
The old Soweto cooling towers have been brought to life by colourful, vibrant murals
(Summers, 2013)

CHAPTER 06

PROGRAMME

Chapter 6 introduces and explores the dynamics of the proposed programme: the Creative Conservatory (CC). The underlying issues to which the programme responds are considered, as well as the conceptual, pragmatic, and spatial intentions which enable the Creative Conservatory to become an engaging, vibrant and dynamic community arts and media centre.

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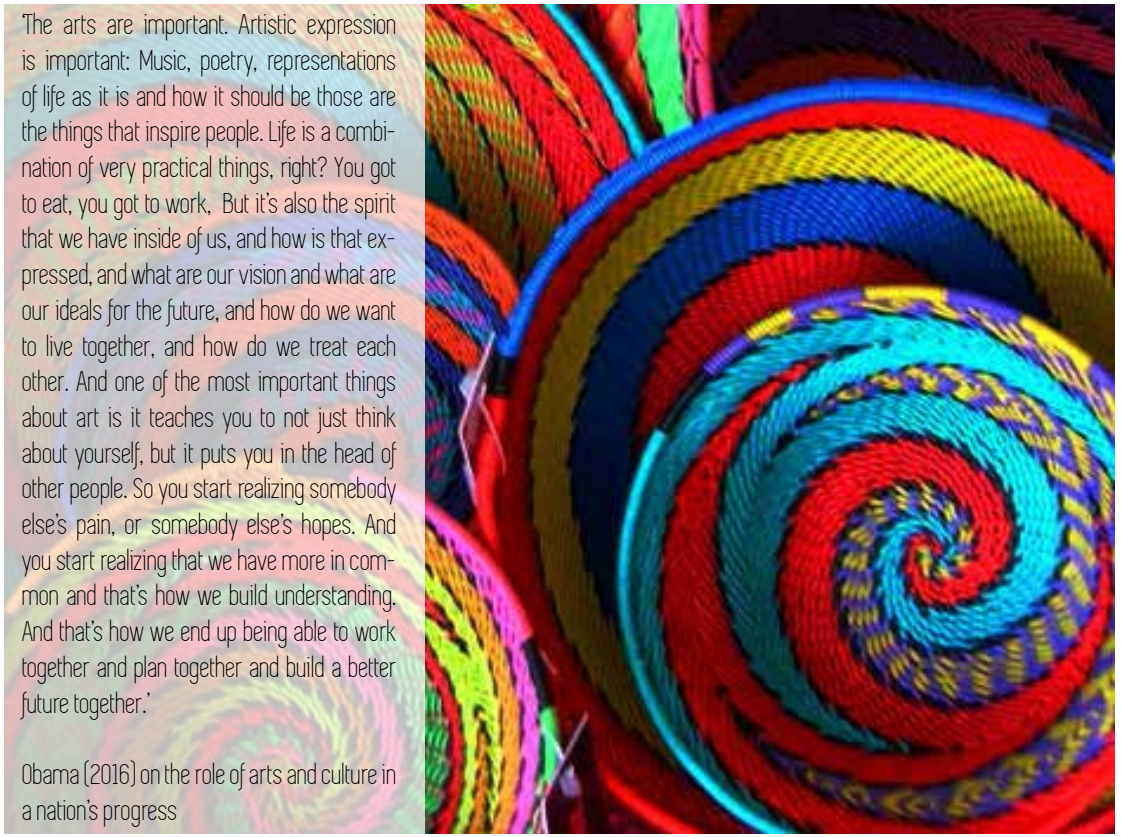


Figure 6.2
(Author, 2016, Adapted from Spugnardi Design, 2013)

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6.1_INTRODUCTION

6.1.1_A CREATIVE PHILOSOPHY

'There is little that shapes the human experience as profoundly and pervasively as creativity. Creativity drives progress in every human endeavour, from the arts to the sciences, business, and technology. Creativity is the vehicle of self-expression and part of what makes us who we are (Kaufman, 2014).'

Creativity is the capacity of humans to transcend traditional thought and cultivate innovative ideas. Creativity is an elusive concept: It cannot be measured, comprehended, or predicted, yet continues to transform our world. Intrinsically, creativity is at the core of human ingenuity and our progress (Kaufman, 2014).

Johannesburg pulses with culture and creativity, an energy embodied in the dancers and singers on the sidewalks, the colourful cafés, street art, and the innovative ideas of wire artists and students alike. If this energy could be harnessed, and propagated, allowing it to grow and be cultivated it could drive development of the City as a Cultural Capital. Johannesburg's inner city is alive with possibility and the latent potential of the dense and diverse population runs as deep as the gold reef which once gave the city its purpose. It is time to capture, cultivate, and concentrate the creative energy of Johannesburg, and spatial transformation and the introduction of programmes focused on developing the creative sector is vital to this end.

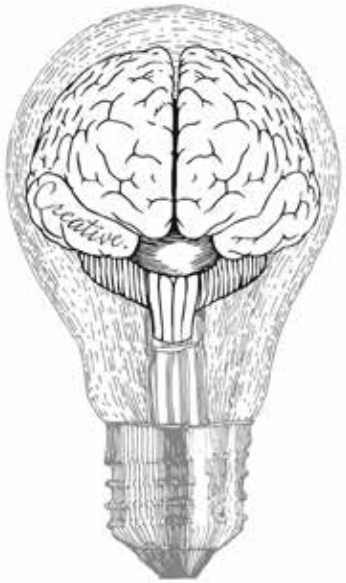


Figure 6.3
Brainwave (Author, 2016)

6.1.2_INTRODUCING THE CREATIVE CONSERVATORY

Located in the heart of Johannesburg, in the corner of the city's oasis, lies the Conservatory Complex, a site that has been reimagined in this dissertation as a creative destination, inspiring people to engage with one another and the arts, and freely express themselves and take part in the making of place.

The programme of this dissertation is the Creative Conservatory, a Community Media and Arts Centre based in Johannesburg's inner-city. The task of the Centre is to promote and inspire the development of media and artistic practice that celebrates Johannesburg's cultural diversity and recognises the importance of creative practitioners within society. The vision is to create an empowering environment for the flourishing of artistic and cultural expression, development, and exchange.



Figure 6.4
Emblem of the CC
(Author, 2016)

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6.2_THE LATENT POTENTIAL OF JOHANNESBURG'S ARTS & MEDIA SECTORS

6.2.1_THE IMPORTANCE OF ARTS & MEDIA

South Africa's young democracy relies on the establishment of diverse communication and cultural environments that are able to reflect all its people (Autre[s]p Arts Factories, 2004). The reconstruction of the social, economic, and physical contexts of the country and her cities is vital for transformative nation building, and arts and media should play a central role in this development. The media does so by providing citizens with access to information and the opportunity to communicate their needs whilst transforming their environment. The media sector includes printed and online publications such as newspapers and magazines, advertising, recorded media such as radio, music, and television, as well as different software programmes and electronics like cell phones. The arts industries include all facets of design, fashion, fine arts, performance arts, and craft. These industries should reflect South Africa's unique local, cultural identity to stimulate economic development, while contesting the global homogenisation of culture.

6.2.2_ JOHANNESBURG'S SUBSTANDARD MEDIA & CULTURAL ENVIRONMENT

In Johannesburg, the media and cultural environment is substandard in fulfilling these roles as mainstream media is inaccessible to the diverse population of the city, failing to reflect the lives and concerns of marginalised communities, specifically (Autre[s]p Arts Factories, 2004). Public and private media predominately operates in a top-down manner, depicted by the one-way flow of information from a largely middle class, urban, and male-dominated elite (Autre[s]p Arts Factories, 2004). Although there is a progression in the cultural environment of Johannesburg, the majority of resourcing is allocated to art projects reflecting western ideals and stimulating gentrification of the inner-city instead of involving and developing the existing communities.

The root causes of economic instability in South Africa hamper a person's capacity to access information, communicate, or pursue a media or arts related career (Autre[s]p Arts Factories, 2004). Admittance into the media and arts industries is hindered by various factors, such as the inability of many schools to facilitate a quality arts education for its students due to lack of funding and sufficient resources. Consequently, many young people are left incapable of furthering their studies or careers within these disciplines. Ordinary people also suffer the consequences of limited access to resources that would assist entry into the creative economy. The above-mentioned problems have an adverse effect on creative industries and cultural diversity in Johannesburg and South Africa at large.

Recognising these issues and developing solutions within the media and arts systems has the potential to broaden access to fair communication and mobilise creative expression as a tool for empowerment. The Creative Conservatory aims to tackle these issues, and intends to facilitate communication and cultural expression between cultural and creative practitioners and industries, as well as the general public



Figure 6.5
Graffiti discovered in Maboneng, Johannesburg (Brown, nd)

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6.2.3_ THE UNTAPPED POTENTIAL OF JOHANNESBURG'S ARTS & MEDIA

This dissertation has illustrated the role of arts and media within the creative economy of Johannesburg and placemaking, but they also have the latent potential to play an important social and political role, however in Johannesburg this is largely untapped (South African Government, 2015). Aside from the enjoyment arts and media brings to everyday life, it can, and should, be mobilised to also enable freedom of expression, intercultural ex-change and civic engagement.

FREEDOM OF EXPRESSION

The constitution states that all people have the right to participate in arts and culture, to conserve and develop their cultural heritage (South African Government, 2015). The core of this is freedom of expression, and art enables people to voice their opinions and emotions, and comment on policies of the government without censorship or victimisation, such as with protest theatre plays during apartheid.

INTER-CULTURAL EXCHANGE

Art and media facilitates an inter-cultural exchange which helps promote a collective cultural identity, which is especially important as Joubert Park is used by a diverse community. Culture is the core of who we are, our attitudes, beliefs, and habits, and is reflected in how we live our lives. All cultures have developed artistic expression, because humans are driven by their sensory and emotional landscape (Landry, n.d.). Cultural literacy (Figure 6.) is the ability to understand cultures besides your own, helping one decode what is significant to those people and therefore exist in harmony and (Landry & Brookes, 2006). Arts and media can promote reconciliation and integration by helping people understand one another, tapping collective social potential as a unifying factor. This is vital as South Africa is emerging from a troubled past, in which cultures were segregated.

CIVIC ENGAGEMENT

Art can provide a platform for individuals to engage with each other, their community and larger social issues (DIY Creative Placemaking, 2016). South Africa's cultural diversity can create dynamic in-teractions in the community and art can facilitate the cross-pollination of ideas. Art programmes have the opportunity to challenge decision makers and confront uncomfortable truths, promoting debate (Landry & Brookes, 2006). For example, an installation about and involving migrants could help people reassess their prejudices. A community play developed by local people could provide information and consult the community in an atypical process (Landry, n.d.). An important aspect of advancing Johannesburg's civic society is encouraging and stimulating engagement (Landry, n.d.).

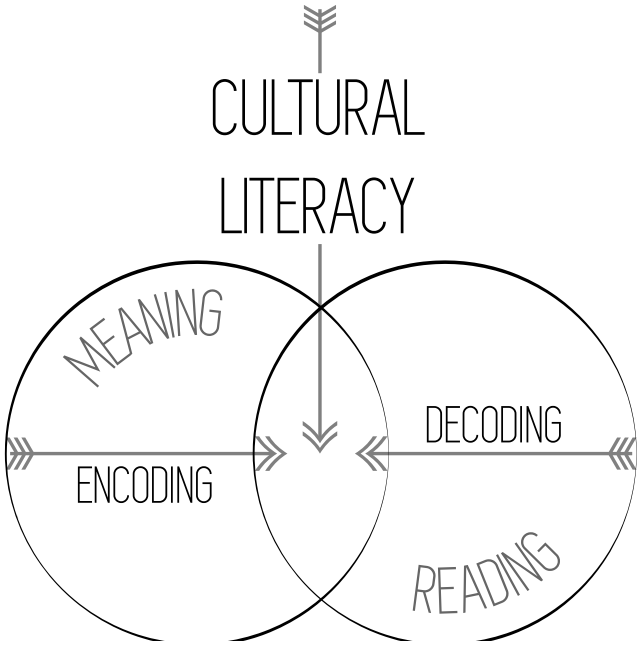


Figure 6.6
Cultural Literacy is the encoding of one party's meaning and the decoding by another party to understand that meaning (Author, 2016)

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Figure 6.7
(Author, 2016)

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6.3_THE CORE OF THE CREATIVE CONSERVATORY

6.3.1_CONCEPT

The Joubert Park Conservatory Complex is presently underused despite its prime location and potential, as it lies fenced off from the public realm, with its heritage falling into decay. The Joubert Park Conservatory serves as the inspiration for the dissertation project and drives the programmatic response. The programmatic concept reinterprets the meaning of the Conservatory's intrinsic character as a place of cultivation, proposing an intervention which honours its historic value while contributing to the present urban environment.

As Chapter 5 discussed, the architectural typology of a conservatory can be one of two buildings: an ornamental heated greenhouse, or a public centre devoted to the cultivation of the arts (Curl, 2006). The Joubert Park Conservatory was designed and built to fulfil the purpose of accommodating exotic plants, which was the focus of the Victorian Park in the twentieth century. However, in the discourse of the creative economy, the function of the conservatory as a house for the cultivation of the arts is an appropriate programmatic response. This is explored to inform the contemporary re-interpretation of the built fabric and its possible social, cultural, and economic contributions.



Figure 6.8
(Author, 2016)

6.3.2_DESCRIPTION

The Creative Conservatory envisages Johannesburg as a city in which all its people have access to various modes of communication and forms of creative expression so as to stimulate personal growth and empower communities while driving the creative economy. The CC plays a role in the successful branding of Johannesburg as the Cultural Capital of South Africa by contributing to urban renewal and promoting economic development through creativity.

MISSION

The Creative Conservatory Complex aims to provide platforms and opportunities for emerging artists, local communities, and cultural industries. This is accomplished by hosting events, providing education, and the facilitation of networking and exchange opportunities. The CC serves artists, local communities, and organisations engaged with media and the arts, mobilising the arts for income generation and supporting the creative economy and cultural landscape of Johannesburg.



Figure 6.9
Children's Radio Foundation (Callaghan, 2014)



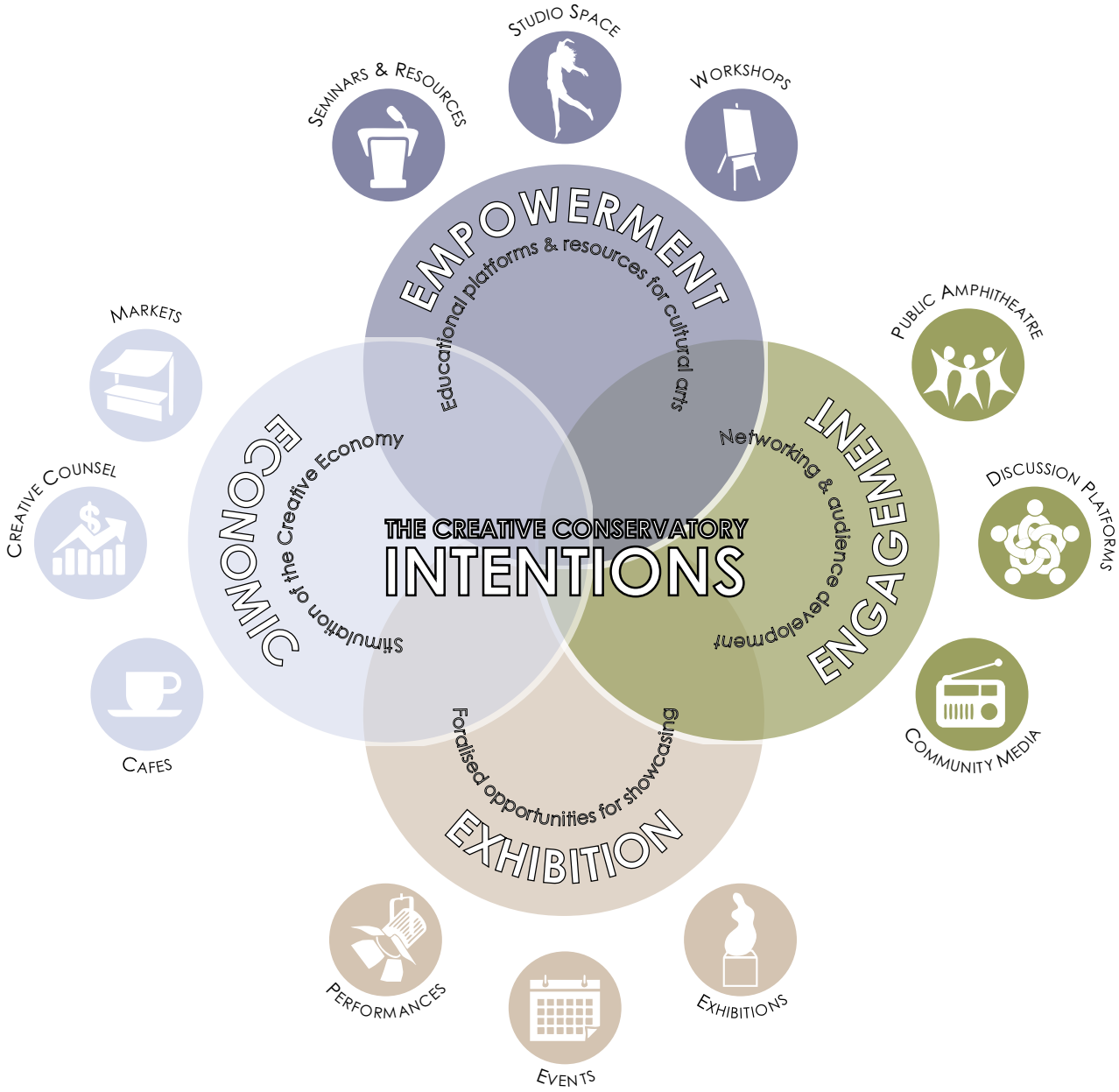
Figure 6.10
Joubert Park Crèche (Author, 2016)

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6.3.3_PROGRAMMATIC INTENTIONS

The Creative Conservatory aims to achieve empowerment, economic, engagement, and exhibition objectives, as illustrated by Figure 6.9.

Figure 6.11
(Author, 2016)



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6.3.4_PROGRAMMATIC PRECEDENTS

Programmatic precedents have contributed to the resolution of the events, motivations, and facilities of the Creative Conservatory. Each example is successful in its ability to display creativity and accomplish goals through a contextual application of media and the arts for the community in question.

Figure 6.12
(Kultuuri Katel, 2016)

6.3.4.1_Kultuuri Katel, Estonia

Kultuuri Katel is a creative arts hub in Estonia that has become an inspiring backdrop for local creative practice, stimulating communal ownership of the facility. The CC also aims to generate such ownership, making this a valid precedent. Kultuuri Katel's services focus on the creative industries (Kultuuri Katel, 2016). Kultuuri Katel hosts cultural events such as concerts, festivals, workshops, conferences and exhibitions. Labs are also provided to members including prototype workshops, recording studios, and food experimentation labs. This brought to attention that gastronomy is indeed a creative sector that the CC can also include. Kultuuri Katel has education programmes facilitating networking and also provides public space for community gathering and a café.

Figure 6.13
(Centre for Creative Arts, 2016)

6.3.4.2_Centre for Creative Arts (CCA), Durban, KwaZulu-Natal

The CCA is a multi-disciplinary community arts centre based at the University of KwaZulu-Natal's School of Arts (University of KwaZulu-Natal, 2016). The University and its students use their knowledge and resources to assist the community and anyone interested in expression through the arts. It is an inspiring NGO approach to a creative arts centre and is driven by events. The CC is also an NGO, and so the management of the CCA is a good precedent for the programmatic resolution. The CCA co-ordinates four annual festivals intended to encourage public participation in the arts. The festivals focus on writing, film, contemporary dance, and poetry.

Figure 6.14
(The Sibikwa Art Centre, 2016)

6.3.4.3_The Sibikwa Art Centre, Benoni, Gauteng

The Sibikwa Art Centre was one of the first of its kind in South Africa. It is an arts and culture training centre, which aims to promote performing and visual arts to assist with job creation and stimulate community development (Sibikwa Arts Centre, 2014). Sibikwa aims to develop original South African creative output, facilitating theatre, dance, and traditional music training as well as various festivals that enrich the lives of performers and audiences. Events include storytelling festivals, community theatre play competitions, and music festivals, many of which inspired events for the Creative Conservatory.

Figure 6.15
(Ekhaya Multi Arts Centre, 2016)

6.3.4.4_Ekhaya Multi Arts Centre (EMAC), Kwa Zulu – Natal

EMAC is a community arts organisation promoting art as a sustainable job opportunity that enhances the lives of performers and audiences while facilitating community development (KCAP, 2016). EMAC offers a wide range of programmes and facilities such as an internet café, recording studio, theatre, dance studio, workshops, multi-media suits and a radio station facility. EMAC introduces media as a programme, which is also present in the CC.

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6.4_THE CREATIVE COMMUNITY

6.4.1_THE CLIENT

The Creative Conservatory exists as a result of the energy of the creative community interacting with the spaces and the facility. Passionate, driven, and inspiring management teams and creative practitioners will bring the space alive and help it reach its full potential.

The Creative Conservatory is an NGO and the primary client imagined for the dissertation, whose branding and programmatic requirements drive the design resolution. The Creative Conservatory works in partnership with the following organisations, considered as secondary clients:

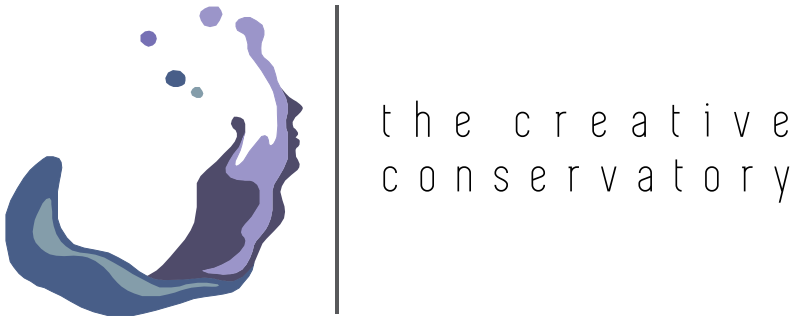


Figure 6.16
(Author, 2016)



Figure 6.17
(JAG, 2016)



Figure 6.18
(Joburg City Parks, 2016)



Figure 6.19
(The City of Johannesburg, 2016)

6.4.1.1_Johannesburg Art Gallery

JAG is located south of the site, and represents the formal exhibition of creativity. JAG engages with outreach programmes aimed at stimulating audiences for the arts and creative people. JAG as a client will work with the Creative Conservatory and offer support of its events and objectives.

6.4.1.2_Joburg City Parks

Joubert Park is arguably the most important Park in central Johannesburg, therefore, consultation with the Parks board is necessary for spatial re-appropriation. Joburg City Parks require that an intervention in a park should benefit the public realm and activate public space whilst fulfilling its own objectives.

6.4.1.3_The City of Johannesburg

The branding of Johannesburg as the Cultural Capital of South Africa is of the utmost importance to the City of Johannesburg. Resources contributing to the stimulation of this identity are offered to start-ups such as the Creative Conservatory, provided that they contribute to this end.

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6.4.2_THE END-USERS

The success of the Creative Conservatory lies in community engagement and the involvement of local creative practitioners and the general public alike. Investigations in Johannesburg by Gershon (2015) discovered that creative practitioners have a desperate need for formal artistic platforms and training opportunities. Currently, it is difficult to perform as there are limited spaces where artists can legally exhibit with a permit because if found outside of these zones, the metro police confiscate their equipment. The struggle of these artists to breakthrough is heightened by the lack of available facilities and resources, such as electricity and tools. Poet, MK, said to Gershon (2015), 'I would like to ask the people out there to help us- to give us a platform.'

During site visits, the author experienced exciting creativity and media within the Joubert Park Precinct. A comedian surrounded by laughing people performs at the Linear Market, a man was heard singing in Zulu and selling his own CDs. The Park is full of photographers offering to take your picture and provide video skills for events, and the author met an actor in the local film and advertising industry. Groups of children in the playground imagine make-believe stories and laugh as they invent dance moves. People sell beaded art and cow-skin shoes of their own making in informal stalls and the streets buzz with the loud music of boom boxes, the playing of board games, and local church congregations dancing on the Park's lawn. All these everyday events could be given platforms to reach more people and transcend from surviving to thriving.

The Creative Conservatory aims to offer support to the creative community and allow their energy to grow and pulsate throughout the Joubert Park Precinct. The public are encouraged to engage with the arts and one other to drive the development of an inclusive cultural capital.

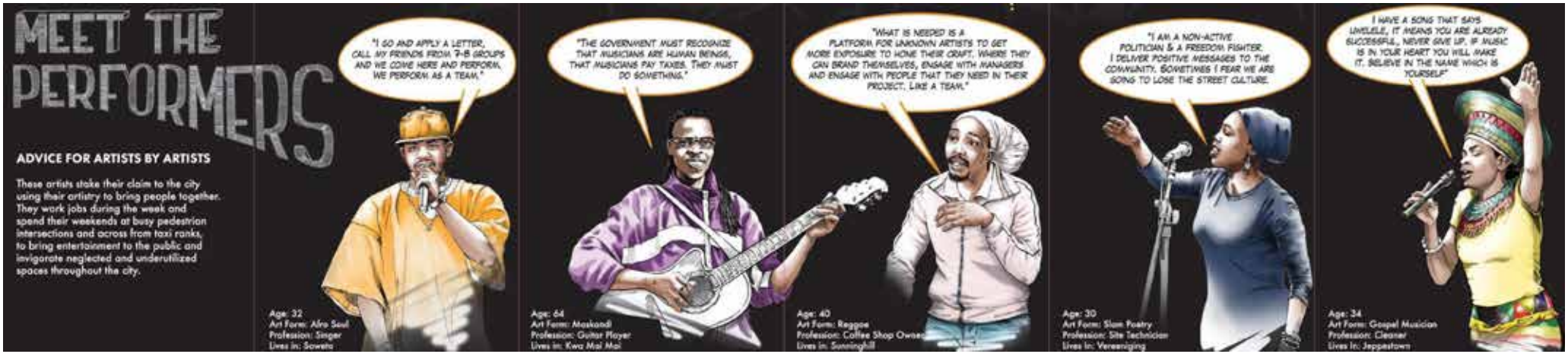


Figure 6.20
Gershon (2015) interviewed street artists as they expressed their needs

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6.5_PROGRAMMATIC PRAGMATICS

6.5.1_MANAGEMENT SYSTEM

The Creative Conservatory's central management core coordinates events and manages facilities, while supporting the management teams for the Community Media Centre, Café, and the Creative Culinary Centre. The CC will also collaborate with JAG, Joburg City Parks, and the City of Johannesburg for the organisation of events throughout the year, as depicted in Figure 6.19. For example, an arts exhibition in the Conservatory will partner with JAG and community artists.

The resources and facilities of the CC are publicly available through arrangements made with the core management team. For example, if a community theatre club would like to use the Black Box facility for a weekly practise, they would register with the Creative Conservatory, who would provide access to the space at the arranged time.

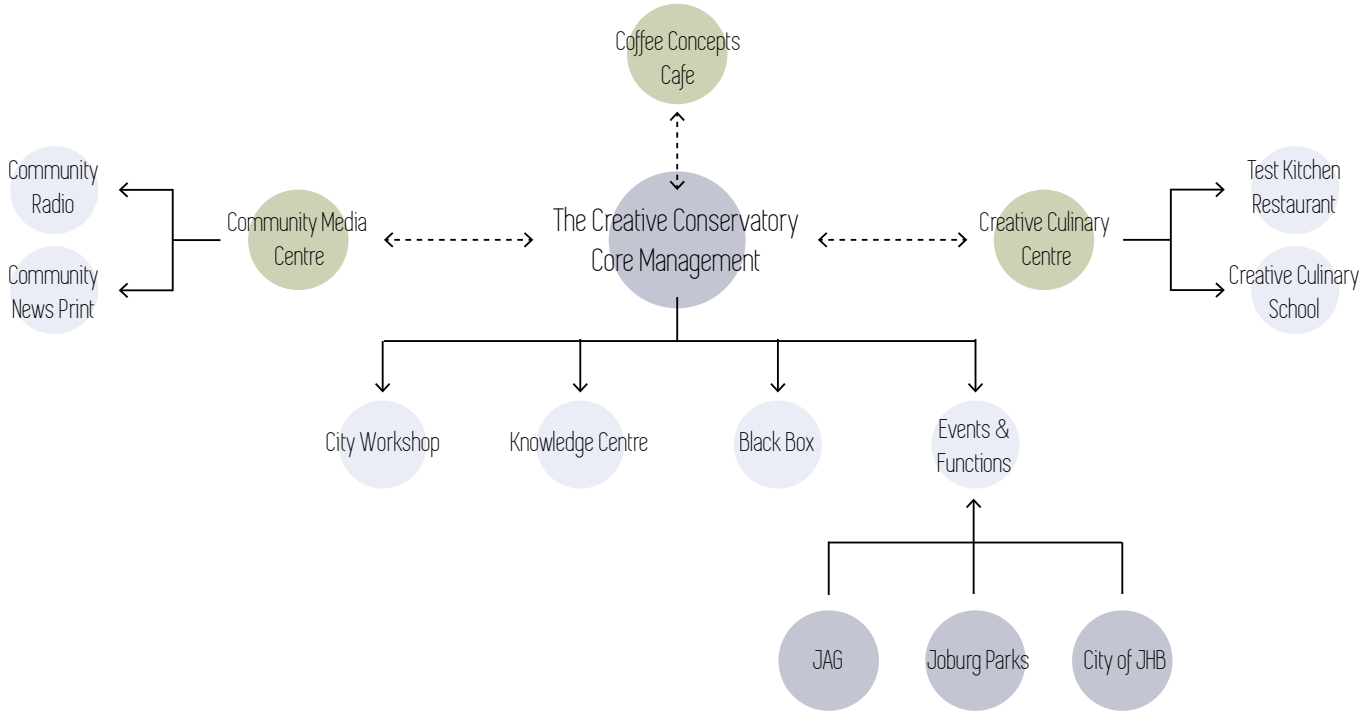


Figure 6.21
(Author, 2016)

6.5.2_FACILITIES

Dynamic, adaptable, elegant spaces are the focus of the architecture, ready to be activated by creative energy and innovative thought. The architecture of these spaces must respond to the unique programmatic intentions, with form following function.

It is very important that all the facilities are rooted in the public realm and allow for engagement with the public and the flow of pedestrians through the site.

6.5.2.1_Outdoor Facilities

The Creative Conservatory endeavours to provide flexible outdoor spaces that enable formal and informal engagement and exchange. The outdoor spaces have relationships with the indoor spaces, connecting the Creative Conservatory to its public environment on the bustling street and in Joubert Park.

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Figure 6.22
(Author, 2016)



THE CONSERVATORY PAVILION

The Conservatory Plaza is the space framed by the new architecture and the Conservatory. It is the heart of the Complex. It is here that large events and performances take place, weekend craft markets set up their stalls, and exhibitions of the Conservatory spill out into the Park, engaging with the community. The possibilities for the Plaza are endless and it is a space to adapt to the needs of those using it.



THE ORCHID PLATFORM

The stone base of the old Orchid House becomes a platform for performance. Comedians may stand up to be watched by a crowd gathered on the lawn or eating at the restaurant, or a local school could have their music recitals. The Platform allows for scaffolding to be erected for formal events and film projections at night, bringing the precinct to life.



PROPAGATION TUNNELS

The old propagation tunnels lie 1.5m below the surface and are given a sustainable agenda, becoming a vertical flow wetland system serving the Complex. This is an educational tool that is aesthetically pleasing and celebrates the presence and importance of water, which is especially significant as Johannesburg is currently experiencing a drought.



AMPHITHEATRE

A terraced open air amphitheatre provides casual shaded seating space, as well as a stage for events and film screenings. The outdoor nature of the space means that it is accessible to anyone.



THE INDIGENOUS PLANT GALLERY

The presence of the JAG within the Park landscape inspired the Indigenous Plant Gallery, a garden of local plants labelled with their names and uses. The Gallery transforms with the seasons, creating a dynamic and poetic educational landscape that contrasts with the Victorian Park's exotic plants. The Conservatory was built to house these exotic plants, and the new intervention will focus on indigenous, South African resources.

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6.5.2.2_Indoor Facilities

The CC has various indoor facilities housed in different blocks. Many of these spaces are multifunctional to accommodate the dynamic programmatic intentions of the CC and can physically open up to engage with the public directly, thereby activating edges of the street and Park.



THE CREATIVE CONSERVATORY KNOWLEDGE CENTRE

The Knowledge Centre is the management core of the Creative Conservatory, and provides a large meeting space upstairs and media resources (a library and computer stands) on ground level to assisting creative people in pursuing a career in media or art. The CC also offers counsel and networking opportunities for emerging artists through events and by advertising auditions and local creative events. It is also the point of arrival for anyone interested in engaging with the CC and its programmes, so must sit in an accessible position.



THE CONSERVATORY EXHIBITION SPACE

The Joubert Park Conservatory heritage structure is the heart of the new Creative Conservatory Centre. The ornate greenhouse is adapted into a premier exhibition and event space with an outdoor pavilion spill out space. Possible uses are limitless: art exhibitions, fashion shows, poetry evenings, concerts, markets and so much more. The new architecture should frame this as the most important space, and the heritage structure may have to be selectively adapted to fulfil these objectives.

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Figure 6.23
(Author, 2016)



THE BLACK BOX

The Black Box is an open plan, highly adaptable space that can be used for theatre performances and rehearsals, as a dance studio, and as a workshop space for skills training. The space can be booked by the public through the Creative Conservatory management for community meetings, theatre practise, or choir evenings to name a few possibilities. On weekends, the Black Box may be used as a space to formally and informally train young people in the core skills of visual and performance arts as a means of expression.



COMMUNITY MEDIA

Community media is a vital contributor to freedom of expression, thus supported by the CC. A Community News Print (newsletters, advertising for community functions, pamphlets production etc.) and Radio Station helps identify concerns within the area and assists organisations targeting social development with the promotion of their agendas. The Community News Print runs a holiday workshop where students work to publish their own magazine and engage in discussions on societal issues, and the Radio Station encourages the community to participate in discussions over the air. Therefore, these spaces need to have visual connections to the public realm, although their functions need to be spatially controlled.



CITY WORKSHOP

The City Workshop creatively tackles identified issues of the city, involving diverse creative people in innovative problem solving. For example, the radio station may have discovered that the community is unhappy with the informal trade stands on the street. The City Workshop will initiate a month long programme targeted at finding a creative solution. Ten creative practitioners will be chosen and will work together to develop prototypes for a new trade stand. Ideas will be tested on the street and discussed with the public in a mutually beneficial manner that impacts and improves the entire city.



COFFEE CONCEPTS

Coffee Concepts is a café that is open 24 hours and spills out into the public realm, keeping eyes on the street and filling the site with social energy by stimulating chance encounters between creative people. The Café serves the Black Box during events, opening up and becoming a foyer space for the audience before performances.



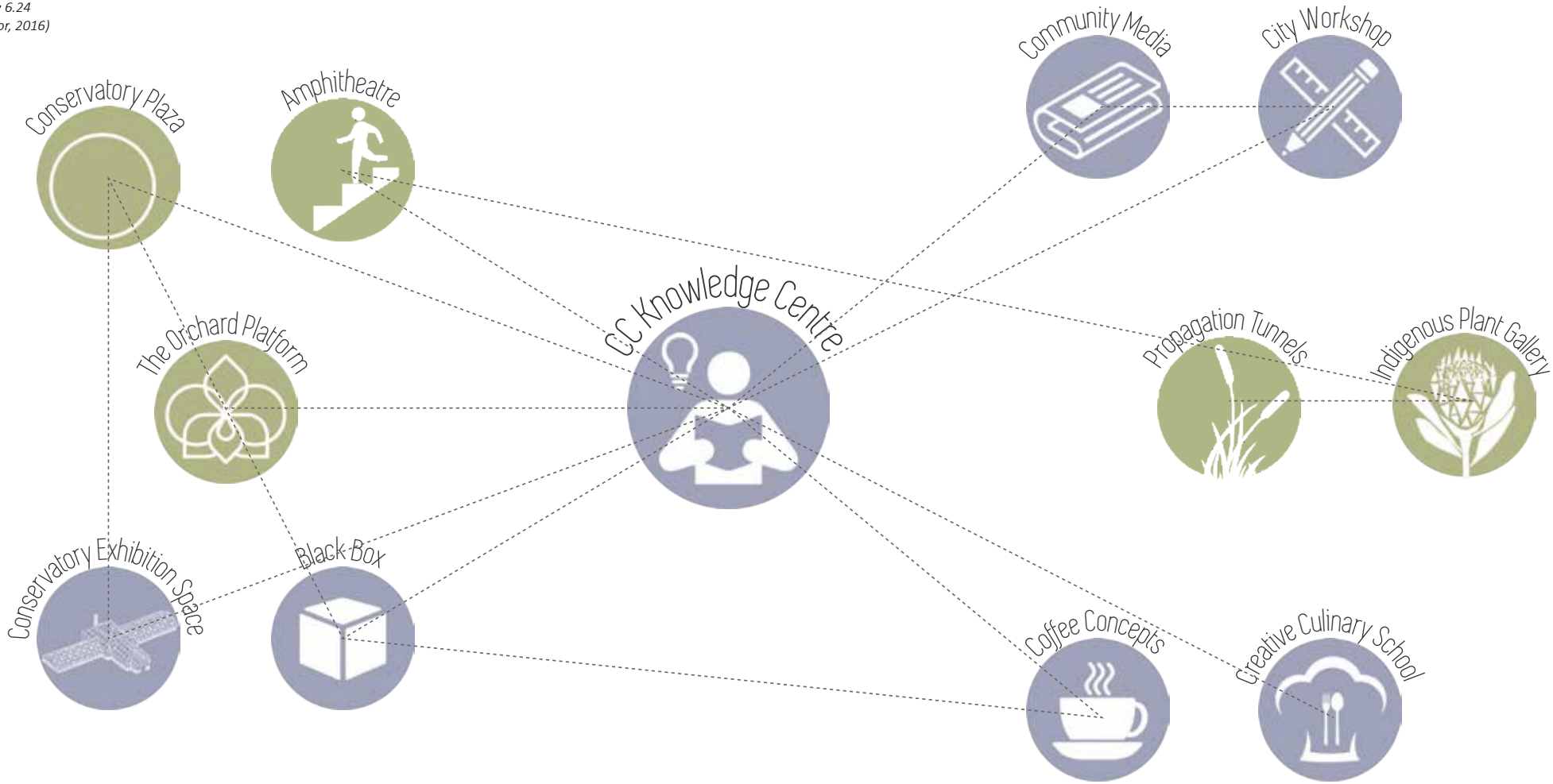
THE CREATIVE CULINARY SCHOOL

The Creative Culinary School has a social agenda, recognising food as a vessel for cultural expression and social interaction. The School facilitates experimentation with local flavours and trains aspiring chefs. The food produced by the School supplies the adjacent restaurant, the Test Kitchen. The School is a platform for the identification of talent, which is scouted by restaurants helping students network with the industry and test their innovative gastronomic ideas.

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6.5.2.3_Relationships between the Various Facilities

Figure 6.24
(Author, 2016)



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6.6_EVENTS OF THE CREATIVE CONSERVATORY

The creative life of the CC is celebrated through events that involve the entire community in vibrant projects, performances, and exhibitions which pulsate throughout the City, inspiring creative attitudes and social engagement.

Proposed events for the Creative Conservatory draw from existing cultural and creative activity already present within Johannesburg, which have the potential to drive creative placemaking.

The proposed events are discussed in different categories, with local precedents.



Figure 6.25
(Author, 2016)

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6.6.1_VISUAL ARTS

Visual art is human thought made tangible through the strokes of paint clad brushes, the movement of a pencil on paper, and the moulding of clay by careful hands. The visual arts are mobilised in innovate problem solving events through the City Workshop, and various indoor and outdoor exhibitions in connection with JAG will provide artists with networking and career opportunities. Public engagement is encouraged as all people are invited to exhibitions and film screenings.

6.6.1.1_Public Art

Superdream, Jeppes Park, Johannesburg
The Trinity Session, 2015

The aim this public arts project was to exhibit the role of art in transforming negative perceptions about certain urban spaces. Promoting creative interaction in Jeppes Park, the project explored the collective memory of the community and involved a group of local artists in the reinterpretation of the space.

The project successfully engaged local people in a community arts project. This displays how art can be mobilised to activate public urban environments and spark renewed interest and investment in the place.

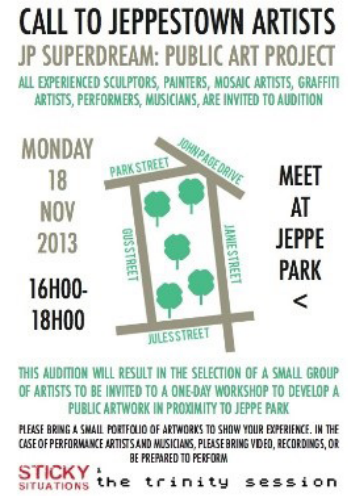


Figure 6.26
(The Trinity Session, 2015)



Figure 6.27
(The Trinity Session, 2015)

6.6.1.2_Film Festival

The Power of Film to Transform Lives and Communities: A Festival of African Storytelling, Film & Design, Johannesburg & Cape Town, 2014
Connect ZA, World Design Capital 2014

The event hosted workshops and film screenings promoting the African film industry, while recognising that South Africa's cities are extremely divided and exploring the role of film in bridging the gaps between communities. Film is an accessible way to instigate dialogue and create solutions and will be used as a tool by the CC.



Figure 6.28
(Malingane, 2014)

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6.6.2_PERFORMING ARTS

When the movement of bodies in space captures human emotion, that is Performing Art. Theatre and dance are raw forms of expression that have the potential to bridge the gaps between people through a mutual understanding. During Apartheid, protest theatre played a vital social role, giving a voice to the voiceless. The diverse dance types, from classical ballet, to traditional dance, are also a vital aspect of South African heritage and mode of physical expression that needs to be celebrated and explored. The CC will host community theatre competitions, dance recitals, and festivals. Heritage events, such as the Swenkas fashion show, are given a platform.

6.6.2.1_Fashion Show

The Swenkas, Inner-city Johannesburg

The Swenkas is a fashion show event in which smartly dressed men present themselves so as to have their style ranked by a jury. The event originates from the culture of Johannesburg's labour migrants and invites the public to participate in heritage based events which make for a vibrant public place.



Figure 6.29
The Jeppe Hostel Swankers (TJ Lemon, 2000)







Figure 6.30
oSwenka Performance (Cunniffe, 2013)

6.6.3_MUSIC

Music expresses emotion in a way that crosses cultural and language boundaries. Music can energise, relax, and create an atmosphere like no other form of creative expression. South Africa has a rich and diverse musical environment, from the classical orchestras to the informal street performers, all of which are represented in musical concerts and events of the CC. Informal street performance space is provided to be used every day, thus activating the public realm and helping artists to earn an income.

6.6.3.1_Isicathamiya Choir Competitions

1900s Zulu Vocal Performance Art

Isicathamiya is an indigenous South African acapella choral singing synthesising traditions (Encyclopaedia Britannica, 2016). Isicathamiya Singing Competitions were all night weekend choir competitions which held historical cultural significance for migrant workers during apartheid. Songs were written by the choir to address social and political issues and educate audiences. Choir is a community affair stimulating social development and inclusivity.

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6.6.4_POETRY & STORYTELLING

African traditions and memory are passed down through the generations by oral storytelling. Narratives of the past connect people to their heritage and by hearing these tales, other people can begin to understand their culture. Poetry is rhythmic storytelling and raw expression of thoughts and emotion. The CC will hold poetry reciting evenings, which are important for freedom of speech. A storytelling festival will also be held, celebrating history, tradition, and language. Stories bring people from different cultures together to listen and learn from the past.

6.6.4.1_Poetry

Smash Multimedia and Poetry, Johannesburg

African Dreamin' Productions hosts slam poetry events at different locations in Johannesburg, giving artists a platform to perform. Joubert Park's Creative Conservatory will become a new destination for these events.



Figure 6.31
(African Dreamin' Productions , 2015)

6.6.4.2_Storytelling

Ungasali Storytelling Festival, Freedom Park, Pretoria
South African Government, Department of Arts and Culture, 2016

Land, Unity, and Prosperity were the themes of the 2015 third annual Ungasali Storytelling Festival, which aims to reinforce South Africa's cultural exchange programmes in order to develop the arts, culture, and heritage industries and use the oral narrative to affect social change (South African Government, 2016).

Storytelling is one of the oldest African art practises and remains an academic and emotional cultural asset. The festival holds performances and workshops to develop these skills in people of all ages.



Figure 6.32
(Freedom Park, 2016)

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6.6.5_MARKETS

Markets are colourful places of discovery where buyers haggle with sellers who advertise their products with inventive stands and shouts of their wares. The CC has the opportunity to host a variety of different markets, focusing on creativity. A weekend craft market activates the street, and a cultural food market might be held in the Conservatory Pavilion at the start of every month. Artists Under the Sun could infiltrate the Park, with people selling their art and networking with one another. Markets attract new audiences and promote interaction and the economy.

6.6.5.1_Craft Market

Greenmarket Square African Craft Market

Greenmarket Square is the oldest western formal public space of South Africa, built in 1696 (Cape Town Official Tourism Website, 2016). The cobblestoned Square has served as a farmers market, slave market, and parking lot amongst other functions and is now the location of an informal flea market selling primarily African crafts. Traders of diverse ethnicities sell a wide range of goods and street performers entertain using the space as their platform. The Market is highly successful, contributing to local life, tourism, and the prosperity of surrounding businesses.



Figure 6.33
(African Tip Tours, 2016)

6.6.5.2_Art Gallery

Artists Under the Sun
Zoo Lake, Johannesburg

Artists Under the Sun was established in 1960 and originally held in Joubert Park. Now, the event is held on the first weekend of every month in Zoo Lake. Over 100 artists showcase their fine art work in this unique open-air gallery experience. People are able to meet the artists, talk with them, and immerse themselves in the creative atmosphere. There is an opportunity for the event to return to Joubert Park with the development of the CC and revived presence of JAG.





Figure 6.34
(Artists under the Sun, 2014)

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6.7_FUNCTIONAL & SPATIAL REQUIREMENTS

6.7.1_OUTDOOR FACILITIES

Facility	Function / Space	≈Area (m²)	Requirements
The Conservatory Pavilion	Paved pavilion	700	Accessible, central location, high visibility
	Central fountain	50	Fountain flush with pavement, can be turned off for events
The Orchid Platform	Seating		Scattered seating in the landscape facing the Platform, must not over-power the landscape
The Indigenous Plant Gallery	Planted living roof		Intensive living roof accommodating indigenous planting. Certain plants with deep root systems will require planter boxes sitting on the column grid
Amphitheatre	Informal tiered seating	280	Outdoor, high visibility
	Platform / Stage	40	Outdoor, with space to attach scaffolding for events
TOTAL		1070	

6.7.2_INDOOR FACILITIES

Facility	Function / Space	≈Area (m²)	Requirements
The Conservatory	Exhibition space	630	Conservatory needs to be restored: glass, painting, cleaning, paving the floors etc.
The Creative Conservatory Knowledge Centre	Reception	10	Easy public access, connected to management office, must have views of circulation and access points
	Office	13	Accessible from reception, removed from public space, basic staff kitchenette
	Informal seating and reading space	85	Open plan seating
	Media Centre	70	Book shelves and freestanding computer stations
	Store	5	Media centre store
	Lift Shaft	3	
	Meeting area	60	Open plan meeting space with outdoor access
	Store	16	Meeting area services and store
The Black Box	Open plan hall	155	Rectangular, springed floors, adaptable space
	Store	16	
	Backstage	16	With access to store

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6.7.2_INDOOR FACILITIES (CONTINUED)

Facility	Function / Space	≈ Area (m²)	Requirements
The Community Media Centre	Radio studio	16	Visual link to control room and outdoor discussion platform
	Radio control room	16	Visual link to radio studio
	Radio tower		Must be at sufficient height to emit radio signal
	Sound lock	2	Transition between control room and studio to eliminate noise
	Public discussion platform	30	Outdoor seating with permanent speakers and microphones allowing the public to interact with the community radio
	News print office stations	18	3 work stations, open plan
	Breakout space	24	Basic kitchenette and counter space
	Print room	13	
	Informal discussion space	42	Open plan seating area, visually accessible to public
City Workshop	Foyer & Breakout space	45	Basic Kitchenette, seating
	Workshop	80	Open plan work space to adapt to different types of workshops, visually accessible to public
	Store	12	Basic kitchenette and counter space
Coffee Concepts	Kitchen	11	Access to refuse yard
	Bar & counter	18	Visually accessible to public
	Seating	62	Indoor & outdoor. Outdoor shaded with views over the Park
The Creative Culinary School & Test Kitchen Restaurant	Pantry	11	
	Cooking stations	67	Freestanding cooking stations facing instructors station
	Restaurant seating	85	Indoor & outdoor. Outdoor shaded with views over the Park
	Bar	28	
Services & Ablutions	Ablutions	30 x2= 60	Well ventilated, easily serviced. As per NBR, minimum of 3 female toilets and 2 WHB, and 1 male toilet, 2 Urinal, and 1 WHB. Paraplegic facilities must be provided
	Refuse removal	8 x 2= 16	Easily accessible from the street
	Cleaning staff locker rooms	16	Locker rooms with 1 shower, 1 toilet, and 1 WHB close to ablutions to share common ducts
TOTAL		1751	

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6.8_PROGRAMMATIC VISION



Figure 6.35
(Author, 2016)

The programme suggests the exploration of architecture which is adaptable and acts as a shell for creative experience and activity, whilst relating to public interaction with arts and culture. The social programming and public interface with the CC is of vital importance, so the programme must be accessible and the architecture must become the transition between daily urban life and the extraordinary possibilities of artistic expression and innovation. The programme encourages a dialogue between the city and the park, the everyday routine and the extraordinary arts. The Creative Conservatory is a place of escape in the city, where people can engage with the arts in relaxed context. The CC and its platforms connects people to the heritage of Joubert Park and the Conservatory, and to one another.

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E_VERIFICATION

APPLICATION OF THE IDEA

The Final Stage of the Creative Process, according to Wallas (1926) is verification, in which the idea is deliberately investigated and tested to see if it can solve the problem.

It is important to remember that all four stages are in constant interplay with one another, so while design development is a period of verification, the creative process refers to and develops the preparation, incubation, and illumination stages concurrently.

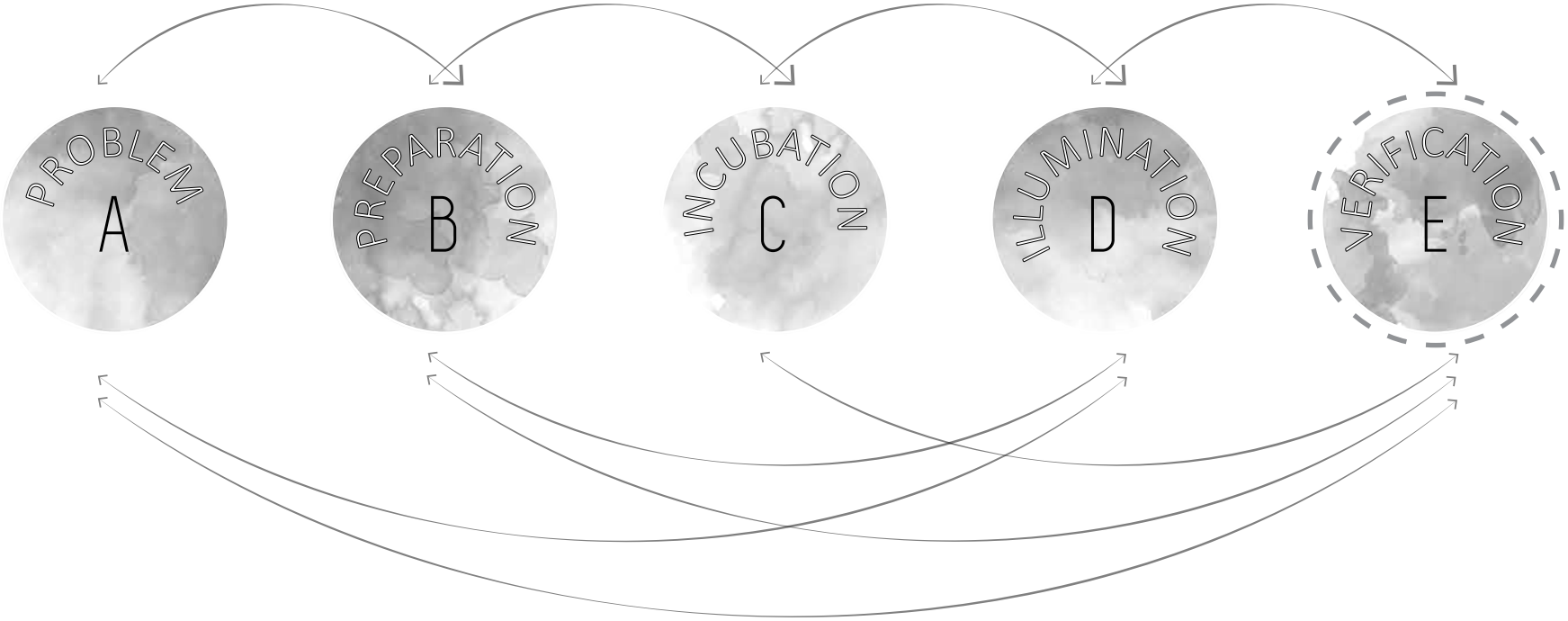


Figure 0.2
(Author, 2016)

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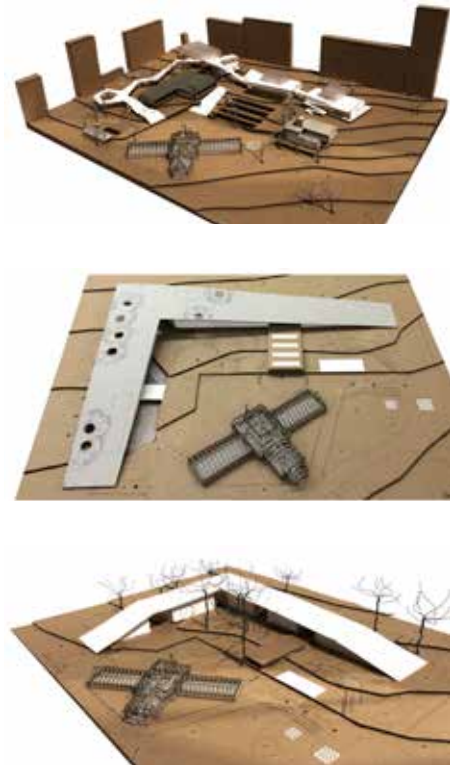


Figure 7.1
Model progression (Author, 2016)

CHAPTER 07

CONCEPTUAL & DESIGN DEVELOPMENT

Chapter 7 explores the conceptual investigation and development of an architectural design response. The design exploration responds to informants identified from previous chapters as well as conceptual approaches. This chapter presents the design informants, concepts, and iterated design resolutions.

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7.1_ DESIGN INFORMANTS

Preceding chapters identified key informants guiding the following conceptual and design exploration. The primary design informants include: project intentions, the precinct vision, theoretical underpinnings, contextual understanding, and the programmatic requirements. By considering and synthesising these informants, a concept is developed which drives the design of the spatial resolution and establishes an architectural language. These informants are briefly reiterated:

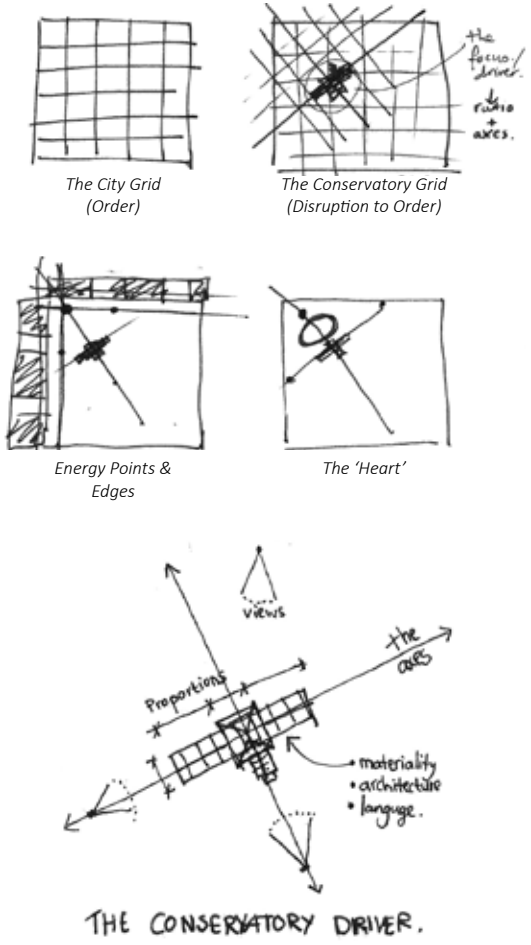


Figure 7.2
Sketch design drivers (Author, 2016)

7.1.1_PROJECT INTENTIONS

(Refer to Chapter 1)

The general intention of the project is to create spaces that aid in the development of human and social capital, driving the creative economy. Following this, the urban intention is to connect Joubert Park to Johannesburg's cultural nodes, allowing the Park to contribute to Johannesburg's creative milieu. Joubert Park's cultural identity is spatially expressed in the project, which is informed by heritage, contextual needs, and future aspirations.

The architectural intention is to:
- Explore the tangible and intangible heritage of the site in the making of new space.
- Consider the inherent qualities of the Conservatory Complex and reconfigure spaces to significantly contribute to its context and the community.
- Stitch the disconnection between heritage fabric and the current urban context.
- Contribute to social, economic, and cultural development.
- Facilitate creative expression and engagement between creative industries and people.
- Assist the cultural and media sectors in becoming accessible and inclusive.
- Appropriately integrate with the Park landscape.



Figure 7.3
(Author, 2016)

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7.1.2_ URBAN PRECINCT FRAMEWORK & VISION

(Refer to Chapter 3)

The design must respond to the urban vision of Joubert Park as an 'Urban Artscape'. Joubert Park's past identities have contributed to its current condition, but have been forgotten. The Urban Artscape aims to rediscover the relevance of the past for the present and future. The urban framework identifies Joubert Park as an iconic public place in Johannesburg with cultural significance that can be mobilised to drive Johannesburg forward as the Cultural Capital of South Africa. The framework intends to connect the Park to other public spaces of the city so that its effect can be felt beyond its tangible boundaries. The architectural intervention should aim to have the same impact beyond its borders.

The intervention is located at the north west corner of the Park, and in accordance with the framework, should hold this edge and help define the Park as a precious public space. The Conservatory is a relic of Joubert Park's identity as an oasis in the City, and ought to be reinterpreted to suit current needs of the community, whilst relating to the identity of the Park as an oasis and place of cultural significance.



Figure 7.4
The urban vision for Johannesburg as the Cultural Capital of SA (Author, 2016)

7.1.3_ THEORETICAL UNDERPINNINGS

(Refer to Chapter 4)

Theoretical discourses impact the approach to design and architectural resolution by considering the role of heritage fabric in placemaking. Joubert Park is under threat of becoming a non-place, and creativity can be mobilised to define the identity of the site.

The theoretical premises of creative placemaking suggests that the architecture ought to:
- Stimulate creative placemaking by having at least 10 different activities within the space, in accordance with the Power of 10 (Project for Public Spaces, 2016)
- Strategically develop its identity around arts and culture activities by engaging public and private sectors
- Cluster creative industries and events to allow for knowledge spillovers and interaction.

The theoretical discourse of adaptive reuse suggests that the architecture ought to:
- Consider the tangible and intangible heritage and memory of the site.
- Adapt heritage fabric to suit new needs.
- Support a symbiotic relationship between the old and new architecture.



Figure 7.5
The Power of 10 in placemaking (Project for Public Spaces, 2016)

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7.1.4_ CONTEXTUAL UNDERSTANDING: THE SITE

(Refer to Chapters 2 & 5)

The quantitative and qualitative site conditions, tangible and intangible heritage, and inherent qualities of the site must be considered in the design response, whilst aligning with the theoretical premise and project intentions. Joubert Park and the Conservatory Complex provide a fascinating physical, social, cultural, and historical context from which to draw. These characteristics must be recognised in the design response with respect to identified geometries and interfaces between elements. The intentions for the Conservatory and the response to its heritage should be reinforced by the architecture, which must also consider the natural heritage of the beautiful trees on the site.

The built and natural heritage fabric of Joubert Park and the Conservatory should merge with the new contemporary intervention, stimulating a mutually beneficial relationship.



Figure 7.6
Context sketch mapping (Author, 2016)

7.1.5_ PROGRAMMATIC REQUIREMENTS

(Refer to Chapter 6)

The Creative Conservatory is a community creative arts and media centre which calls for an adaptive and engaging architectural response that stimulates creative exchange. The programme requires spaces for expression and creative investigation, stimulating interaction and creative community development. Therefore, the architecture ought to encourage public engagement with the Centre's functions.

The primary programmatic elements to be considered in the architectural response include:

- The provision of adaptable indoor and outdoor spaces that can accommodate functions and events of different time periods and scales.
- Hierarchy of entrances into the precinct must be considered, with the Creative Conservatory management core and resource centre as the clear entrance, being the place where the public begins their engagement with the facility.
- Public engagement with the Centre should be maintained throughout by direct and visual connections, informed by the programmatic functionality of the space in question.



Figure 7.7
Programme elements (Author, 2016)

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7.2_ CONCEPTUAL INTENTIONS

The aforementioned design informants drive conceptual thinking, which responds to the project intentions by embracing heritage to contribute to the current context to create valid spaces. The approach to architectural manifestation of the concepts drive design development.

Conceptual intentions are as follows:

7.2.1_BUILDING AS AN EXTENSION OF THE LANDSCAPE

As the site is in a public park, the new architecture is envisaged as an extension of the landscape, providing a secondary ground plane for public exploration. The concept is for the intervention to become part of the landscape, enriching the space rather than detracting from it. The new architecture is conceptualised as a South African addition to the Victorian Joubert Park, established with the introduction of indigenous planting and contextually relevant functions. The concept manifests architecturally with the corner of Joubert Park lifting up to accommodate functions beneath. This allows for new architecture to be introduced without reducing the green presence of the Park from above or compromising the allowance of public landscaped space. The building also defines the corner of the Park, preventing the City's continual encroachment on the Park's boundaries. The planted roof is a living museum with indigenous plants forming a collection which is in a constant state of flux with the changing of the seasons. The building becomes a transition space from the City into the Park demonstrating the interaction of architecture and the landscape.

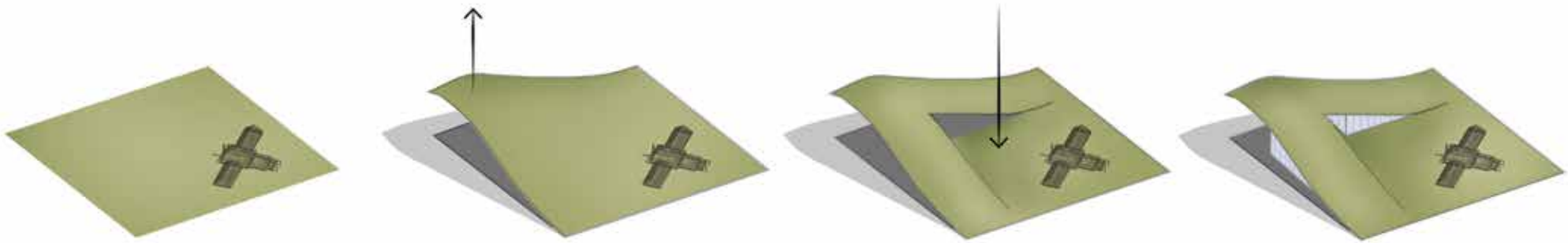


Figure 7.8
Conceptual diagram of architecture as an extension of the landscape (Author, 2016)

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7.2.2_THE CONSERVATORY AS THE HEART

The Conservatory is conceptualised as the heart of the Complex, therefore its tangible and intangible heritage inspires the new architectural intervention. The Conservatory has a powerful presence as an object in space, so the architectural response does not physically build on the Conservatory, but rather frames the structure and responds to its qualities, for example, a 9m x 9m grid is employed, acknowledging the width of the structure's wings on plan. The Conservatory's existing structural nature may be simplified as a stereotomic, heavy base supporting a tectonic, light framework skin. The architectural intervention draws from these contrasting qualities, exploring the relationship between the monolithic and the delicate elements of architecture, expressed in the architectural language.

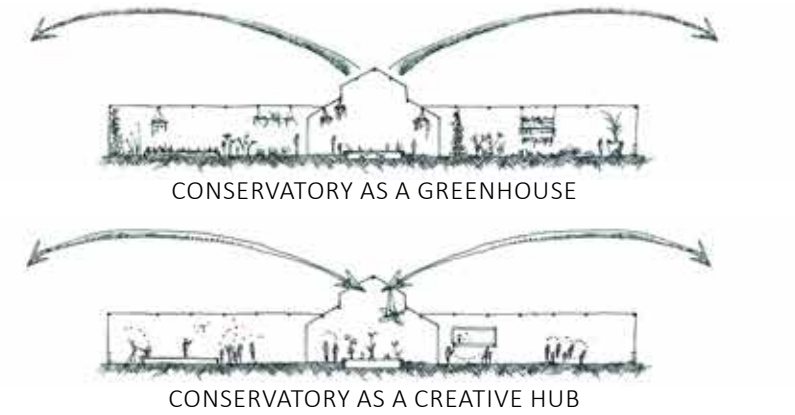


Figure 7.9
The reinterpretation of the Conservatory to be the heart of the CC (Author, 2016)

7.2.3_BROAD CREATIVITY

Behind the sandstone walls of JAG and beneath its floors, innumerable artistic treasures lie waiting their turn to be exhibited to visitors. JAG is a house of the creative arts, but its approach to exhibition is perceived as narrow by the author. One has to enter JAG with purpose to be exposed the art within and cannot interact with the creative works, but observe. There is a place for museums, but in a public park, JAG is failing to engage with the everyday people. This dissertation considers the concept of a broad creativity, meaning creative endeavours that have impact beyond their tangible boundaries. Conceptually, this calls for architecture that is accessible, providing opportunities for the everyday person to interact with the arts on an informal level by walking past the active street edges of the CC or commenting on installations as well as on a formal level if they choose to engage with the activities of the CC, thus, people are empowered to find their individual manner of creative expression. In doing so, creativity filters into the City, as a catalyst for change, rather than limited to one space, as currently happens in JAG. Creative engagement becomes a stroke of serendipity, rather than a planned event, embracing its role in the everyday life of the City, not merely the extraordinary presence found within JAG.

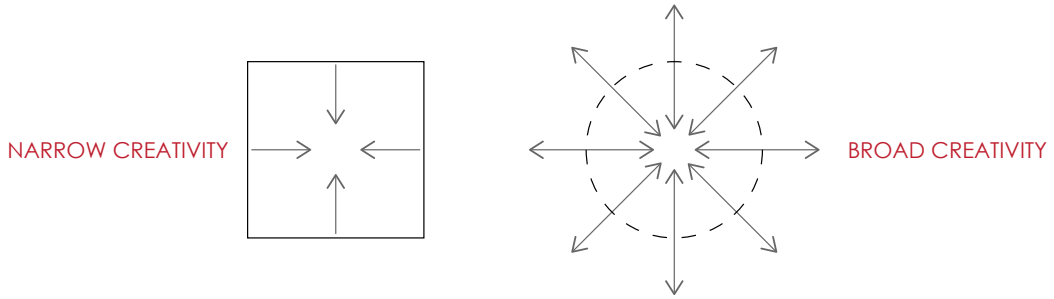


Figure 7.10
Diagrams illustrating the difference between narrow and broad creativity (Author, 2016)

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7.3_ DESIGN INTENTIONS

7.3.1_SPATIAL INTENTION

The spatial intention of the project is summarised as follows:

- To frame and draw from the Conservatory as an object in space.
- To explore architecture as an extension of the Park landscape.
- To generate flexible and adaptable spaces for functions and events.
- To develop a hierarchy of space and entrances into the main courtyard and Park.
- To allow interior functions to engage with the street edge, but allow the Park edges to remain free.
- To draw from and respond to the existing spatial qualities of the site.
- To define the edge of Joubert Park and assert its contextual significance.

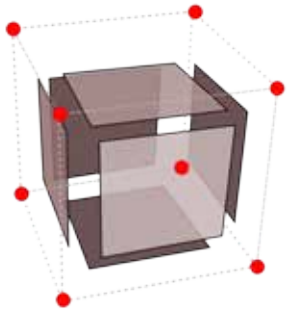


Figure 7.11
A conceptual image illustrating reinterpretation of heritage (the inner planes) by new spatial explorations (the outer points & lines)
(Author, 2016)

7.3.2_APPROACH TO EXISTING HERITAGE

The Conservatory has lost its power as an object in space due to unnecessary architectural additions, boundaries, and its isolation from the Park. The intention is to re-establish its iconic presence in the landscape by adding another layer to the Conservatory Complex in the form of a new building. Existing buildings were assessed in Chapter 5, and the Conservatory, Propagation Tunnels, and the remaining plinth of the Orchard House were identified as having heritage significance. The approach is to incorporate these elements by suggesting new functionality which is appropriate for the project intentions. Structures on the site without heritage importance were considered in the early design exploration to see whether or not they could add value to the Complex.



Figure 7.12
The Victorian Conservatory
(JAG Archives, 2016)

7.3.3_APPROACH TO SWANEPOEL'S 'URBAN ARCHIVE'

Jade Swanepoel's dissertation 'The Urban Archive' (briefly summarised in Chapter 3) is located on the NE quadrant of Joubert Park, adjacent to the site of the Creative Conservatory. As such, the design process should consider Swanepoel's architectural language and the relationship between the two interventions. It is interesting to note that different design approaches have been explored by the author and Swanepoel regarding building in a park. The concept of this project lifts the Park's ground plane with the building sitting beneath a living roof. Swanepoel employs a different strategy, elevating the structure above the Park on stilts, thus removing the architecture from the landscape. Swanepoel makes use of steel construction with metal sheet cladding. The notion is that the two projects lead into one another, drawing on the meandering energy of people using both spaces. The CC's design will respond to the stilts of the Urban Archive and develop a relationship with the programme, which is large photographic pods capturing activity in the Park.

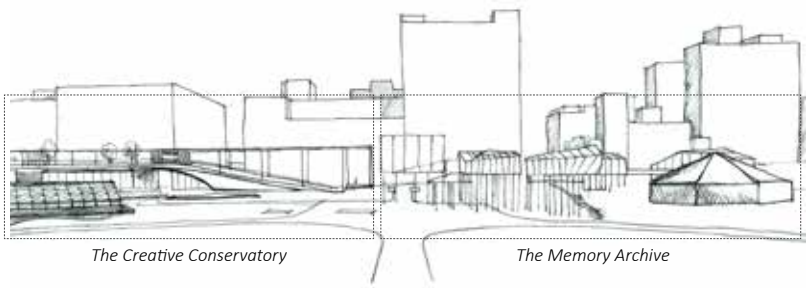


Figure 7.13
Relationship between the Creative Conservatory & the Memory Archive
(Author, 2016)

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7.4_PRECEDENTS

7.4.1_BLOCH BUILDING, EXTENSION TO THE NELSON-ATKINS MUSEUM OF ART

Location_ Kansas City, MO, United States
Architect_Steven Holl Architects
Year_ 1999- June 9, 2007

DESCRIPTION

The Bloch Building rises from the Nelson-Atkins Museum of Art's eastern sculpture park with a planted roof that is pierced by 5 glowing 'lenses' (Figure 7.15), gathering, diffusing and refracting different qualities of light into the interior (Figure 7.17). The relationship between the stereotomic, heavy building and the tectonic transparent boxes is described by Holl as 'the stone and the feather' (Figure 7.18) (Steven Holl Architects, 2016). The plan focuses on meandering circulation routes through and on top of the building (Figure 7.19). The new architecture frames the existing Museum whilst refraining from overpowering the 1933 heritage building.

RELEVANCE

The Block Building explores a paradigm fusing landscape and architecture, which is a core concept of this dissertation, making it a valuable precedent. Holls' exploration of 'the stone and the feather' considers the contrasting relationship between stereotomic and tectonic elements with a clear division between the 'lenses' and the green roofed building, allowing users to experience both by meandering between them. The Bloch building's responds to the original Museum by building adjacent to rather than on top of the structure. Thus, the new architecture is able to frame the old rather than overpower and diminish its powerful presence as an object in the landscape.



Figure 7.14 (Steven Holl Architects, 2008)



Figure 7.15 (Steven Holl Architects, 2008)



Figure 7.16 (Steven Holl Architects, 2008)



Figure 7.17 (Steven Holl Architects, 2008)



Figure 7.18 (Steven Holl Architects, 2008)

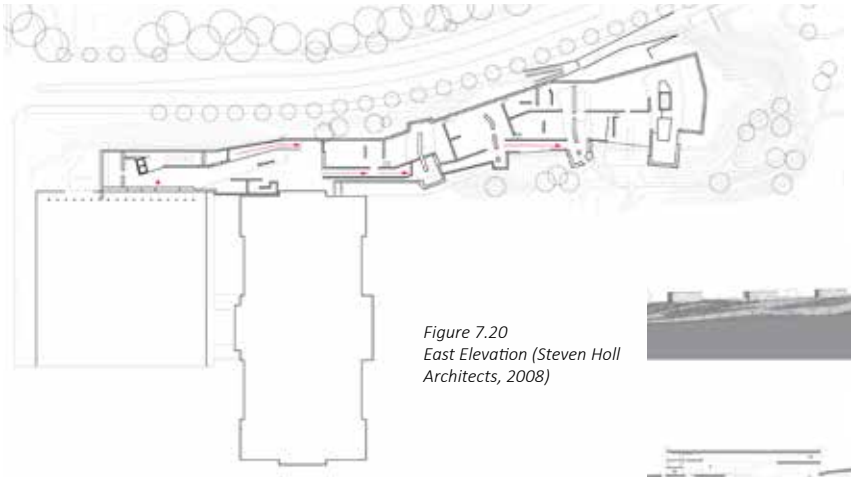


Figure 7.19
Ground Floor Plan (Steven Holl Architects, 2008)



Figure 7.20
East Elevation (Steven Holl Architects, 2008)



Figure 7.21
Longitudinal Section (Steven Holl Architects, 2008)

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7.4.2_BROOKLYN BOTANICAL GARDEN VISITORS CENTRE

Location_ Brooklyn, New York
Architect_ Weiss/Manfredi
Year_ 2012

DESCRIPTION

The Brooklyn Botanical Garden Visitors Centre is embedded into an existing hillside with a 930m2 living roof, rendering it a seamless extension of the gardens (Figure 7.22). The Centre acts as a threshold between the City and the Botanical Garden, transitioning the visitor from the structured street to the organic landscape. The street side has a pleated copper roof echoing a heritage building of the Botanical Gardens, and will eventually weather to green (Figure 7.23).

The Centre has been built with sustainability in mind, making use of clerestory glazing to maximise natural light, rain gardens collect and filter water, and a geoexchange system to heat and cool interior spaces (ArchDaily, 2012).

RELEVANCE

The Centres approach to the City and the Garden is valid for the Joubert Park site, which is bordered by streets and high-rise buildings on the one side and a Victorian Park landscape on the other. The planted roof of the Centre hosts over 40,000 plants (Figure 7.26), becoming a landscape in its own right, although it is not accessible for visitors. The change of seasons impacting the roof transforms the experience of the building which weaves into the tapestry of the garden.



Figure 7.22 (Weiss/Manfredi, 2012)



Figure 7.23 (Weiss/Manfredi, 2012)



Figure 7.24 (Weiss/Manfredi, 2012)

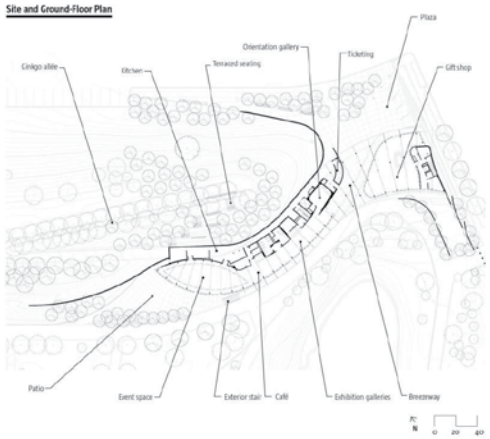


Figure 7.25
Ground Floor Plan (Weiss/Manfredi, 2012)

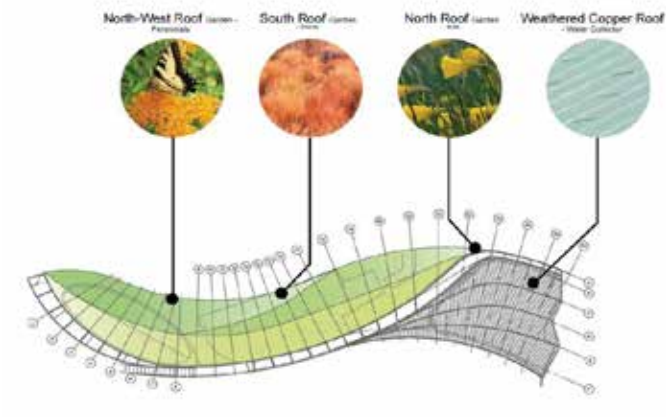


Figure 7.26
Roof Plan (Weiss/Manfredi, 2012)

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7.4.3_CASA REDUX

Location_ Sao Paulo, Brazil
Architect_ Studio MK27, Marcio Kogan + Samanta Cafardo
Year_ 2013

DESCRIPTION

Casa Redux is a minimalistic house lying on the edge of a native forest in Sao Paulo. The building is set on the natural topography and designed to have minimal impact on its surroundings. The structure consists of a slab floor and flat roof of the same size with 4 programmed boxes sitting between them (Figure 7.32). The floor slab is suspended 500mm above ground level, giving it the appearance of floating (Figure 7.27). Each block performs a different task, but together they complete the functions of the house: private bedrooms, the master suite, the services, and the garage. The boxes have different ceiling heights depending on the function. The living space is enveloped in a skin of glass sliding panels, which engages with the external condition, while vertical wooden slatted panels clad the boxes, filtering the sunlight and transforming the boxes into lanterns in the landscape by night.

RELEVANCE

Casa Redux is beautiful in its simplicity and sleek forms, and is the epitome of the whole being more than the sum of its parts. The relationship between the different boxes creates dynamic spaces, unified by a roof slab. The materiality of heavy concrete contrasts with wooden slats and light glass, engaging with the context. The house is a relevant precedent for the dissertation as the roof is the vital element and the building does not overpower, but rather floats above and elegantly meets, its landscape.



Figure 7.27 (Guerra, 2013)



Figure 7.28 (Guerra , 2013)



Figure 7.29
Ground Floor Plan (Studio MK27, 2013)



Figure 7.30
Longitudinal Section (Studio MK27, 2013)



Figure 7.31
Cross Section (Studio MK27, 2013)

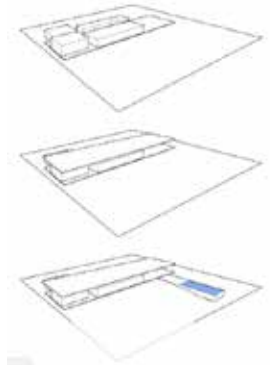


Figure 7.32
Diagram (Studio MK27, 2013)

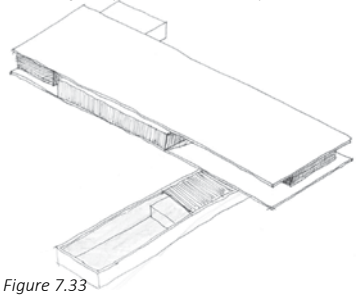


Figure 7.33
Sketch (Studio MK27, 2013)

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7.4.4_THE HIGH LINE

Location_ New York City, US
Architects_ James Corner Field Operations with Diller Scofidio + Renfro
Year_2006-2009

DESCRIPTION

The High Line is an elevated linear park that runs through NYC on the structure of an old industrial steel railway line built in 1930 for freight trains. The 2.3km landscape is inspired by the wild self-seeded planting that took over the structure before it was reclaimed, so a paving system was designed to encourage natural growth and a 'pathless' landscape which is home to over 100 species of plants (Figure 7.38) (Cilento, 2009). The High Line has a meandering nature with various functions activating the space, such as viewing platforms and seating areas (Figure 7.34). The promenade has injected new life into its context, inspiring over 30 new architecture projects in the area.

RELEVANCE

The High Line reclaimed a site which previously provided no benefit to the city and activated a remnant of industrial heritage with a new function that was needed by the community. This is relevant for the dissertation project which is also adapting the use of a site for the requirements of the current community. The tiling is also a great way to integrate planting with paths in a manner that is sensitive to the park landscape.



Figure 7.34
Western view along the Rail Track Walks (Baan, 2014)



Figure 7.35
Entrance onto the High Line (Baan, 2014)



Figure 7.36
(Baan, 2014)



Figure 7.37
(Baan, 2014)



Figure 7.38 Southern view of the Washington Grasslands (Baan, 2014)

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7.5_DESIGN EXPLORATION

7.5.1_INTRODUCTION

The design underwent a multitude of changes as the author discovered new layers of the site and experimented with different responses. The set of sketches (Figure 7.39) illustrates the extensive brainstorming process that led to the formulation of the base design. The design process was erratic and the investigation continuous. This section presents the major design milestones and iterations which led to the final resolution presented in Chapter 8.

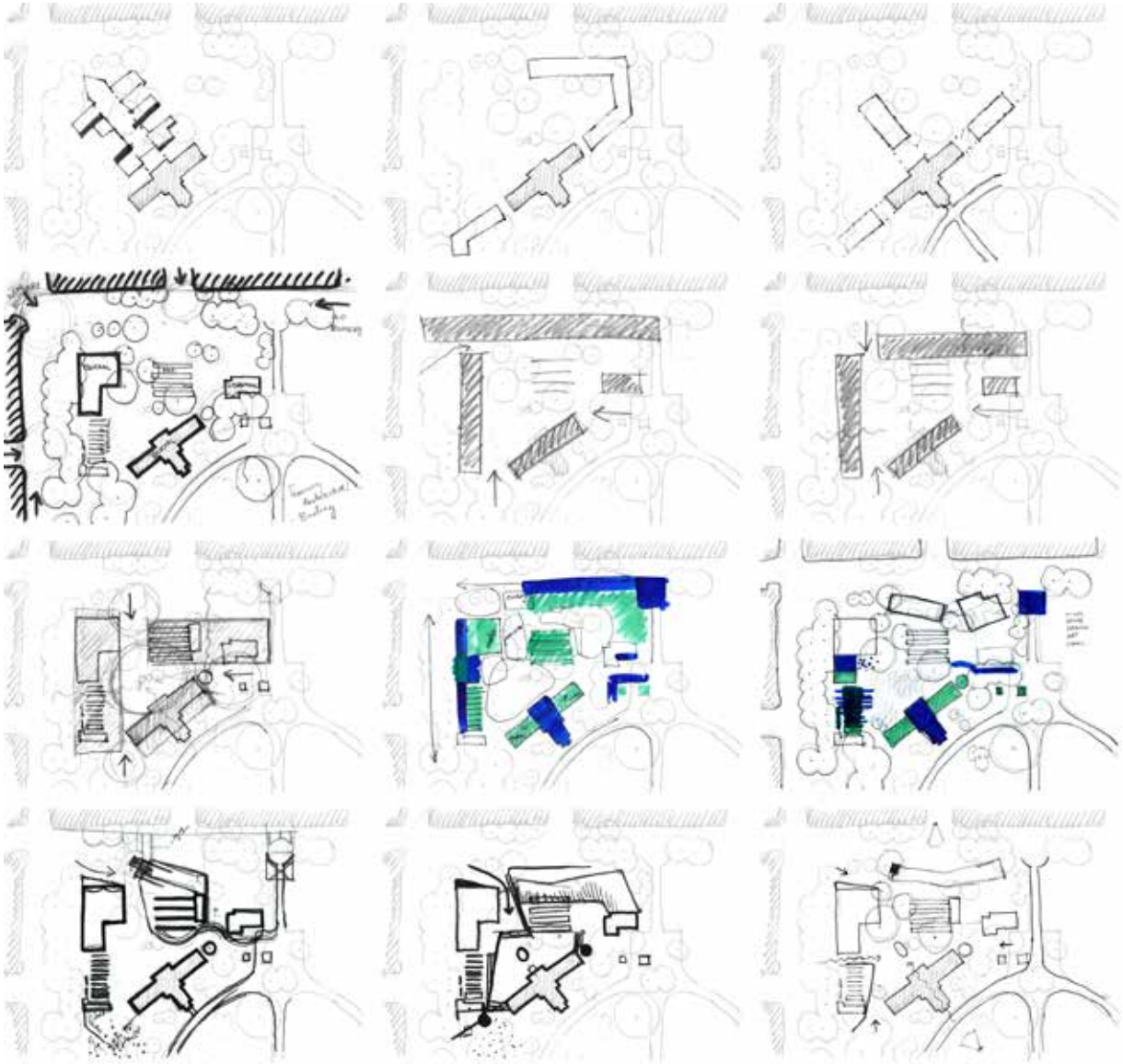
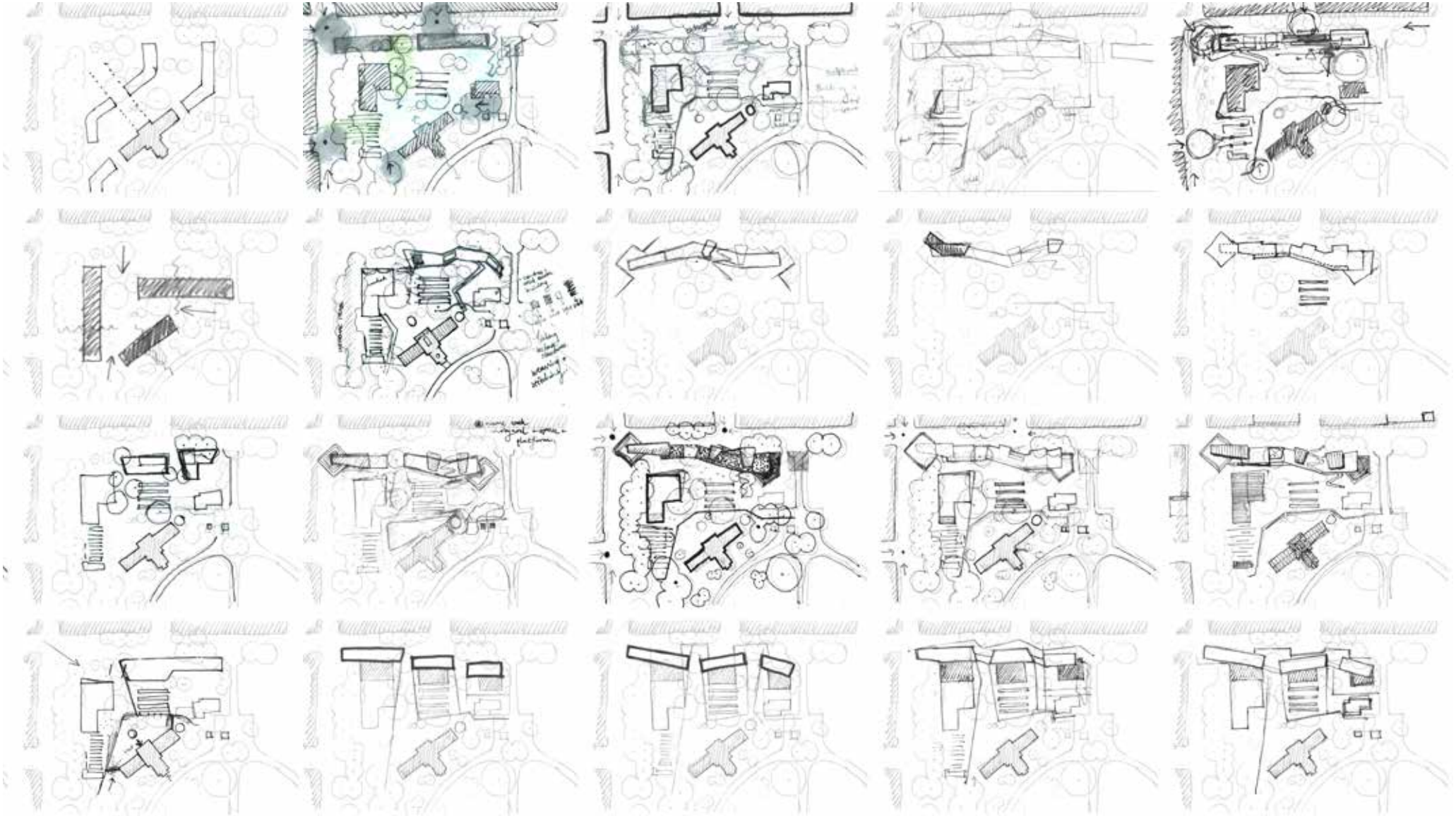


Figure 7.39
Parti diagrams on plan explored the relationship between new geometries and the existing fabric (Author, 2016)

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7.5.2_DESIGN BRAINSTORMING

In the design brainstorming stage, different approaches to the site were considered on a basic level. Ideas formed in the brainstorming stage influenced elements of consequent designs. The brainstorming included the whole northern portion of the Park, but pulled back to focus on the Conservatory Complex which became the final site.

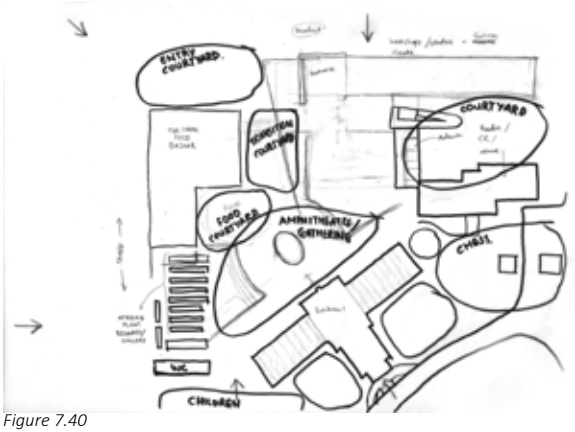


Figure 7.40
Courtyard exploration (Author, 2016)

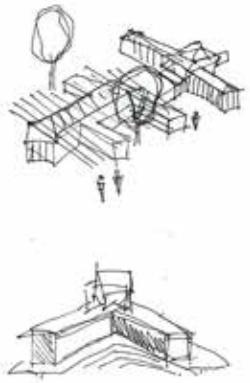


Figure 7.41
(Author, 2016)

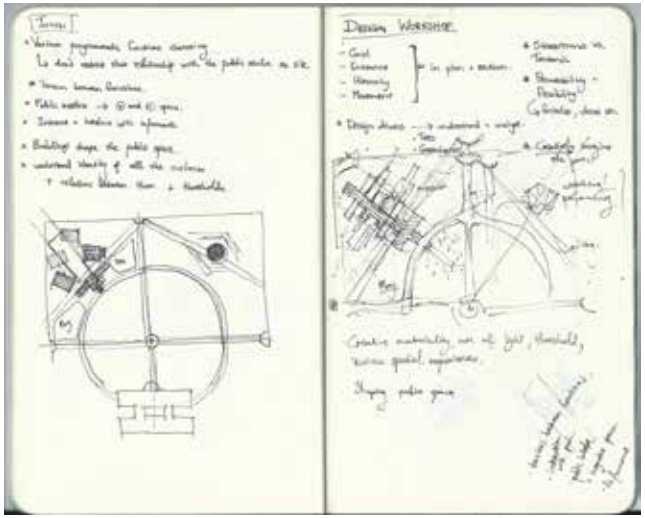


Figure 7.42
Notes from the design workshop (Author, 2016)

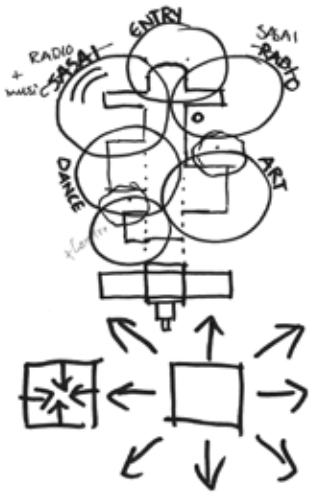


Figure 7.43
Programmatic explorations (Author, 2016)

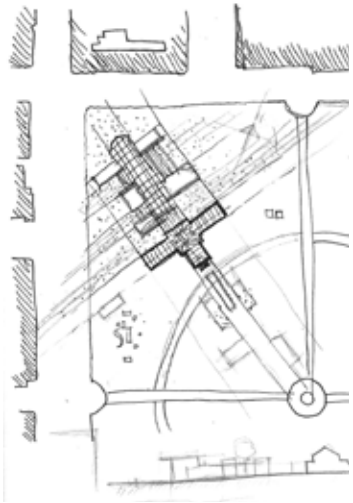


Figure 7.44
Considering the central axis (Author, 2016)

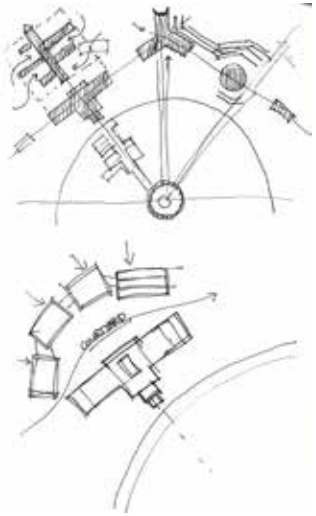


Figure 7.45
(Author, 2016)

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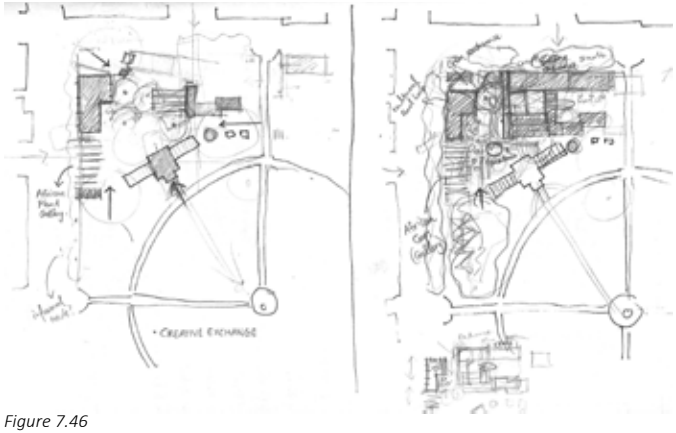


Figure 7.46
(Author, 2016)



Figure 7.47
Considering the whole northern side of the Park (Author, 2016)

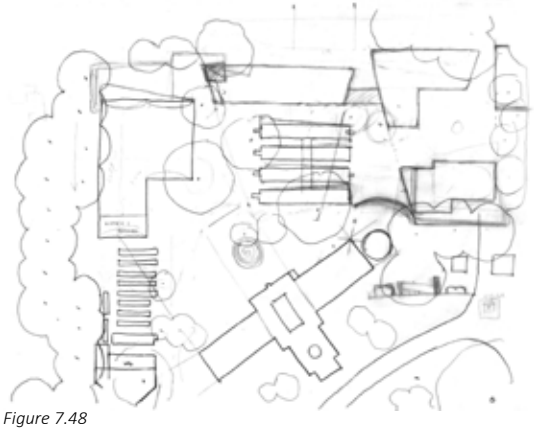


Figure 7.48
(Author, 2016)

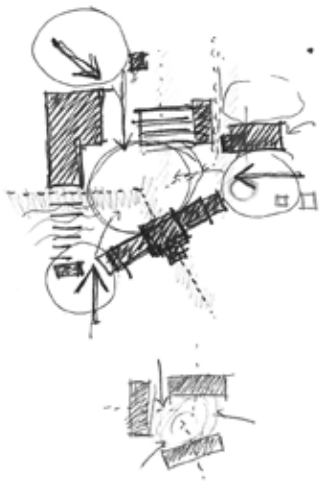


Figure 7.49
Points of entry (Author, 2016)

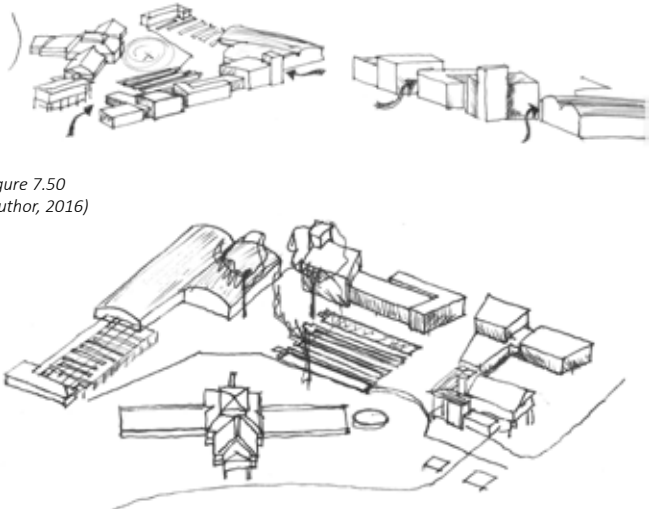


Figure 7.50
(Author, 2016)

Figure 7.51
(Author, 2016)

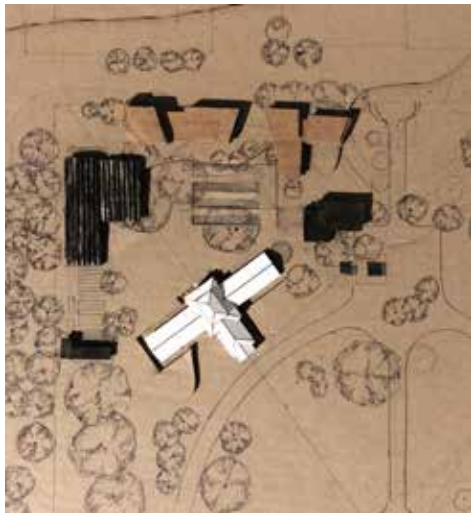


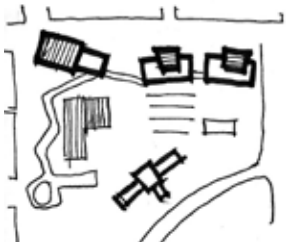
Figure 7.52
(Author, 2016)



Figure 7.53
(Author, 2016)

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7.5.3_BASE DESIGN



OUTCOME

The base design retained most of the existing fabric on the site and developed a new building along the northern edge. The building framed entrances and views into the courtyard. The design explored the concept of the earth rising up between boxes of light carving meaningful spaces into the new landscape (Figure 7.54). The materiality considered the relationship between the City (concrete) and Park (timber). The design focused on the relationship between the heavy earthen base of the Park and the lightness of the Conservatory and reinterpreted the architectural language of the conservatory.

- The basement level housed private functions: the workshop, theatres, and studios.
- The ground floor suggested an active edge for the creative economy and exposure to creative activity, such as the dance studio and radio station (Figure 7.65).
- The first floor had a planted roof accessible via a meandering canopy walk juxtapositioning the City and Park.

REFLECTION

Pros

- The planted roof introduced a new dynamic into the Park landscape and provided new views over the site.
- The boxes reinterpreted the language of the Conservatory .
- The Conservatory was framed by the new building and the existing structures on site.
- Breaking up the mass of the building allowed pedestrians to move freely into the Park.

Cons

- The basement created a scar in the landscape, isolating those functions from the public realm.
- Using the existing architecture resulted in a fractured architectural language and ill-suited functions were assigned to certain buildings.
- The canopy walk was not integrated with the rest of the building.
- Major street routes into the site were blocked by the new building.
- The random angles of the buildings had no conceptual support and failed to engage with the street edge.
- The building edges did not integrate well with the landscape or engage with pedestrian activity.



Figure 7.54
Conceptual elevation illustrating the boxes (Author, 2016)

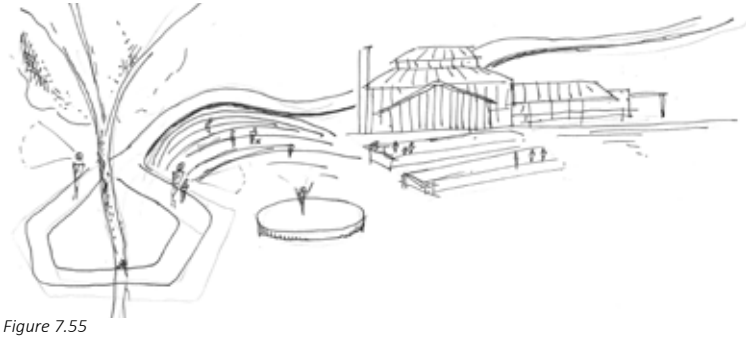


Figure 7.55
Conceptual sketch (Author, 2016)

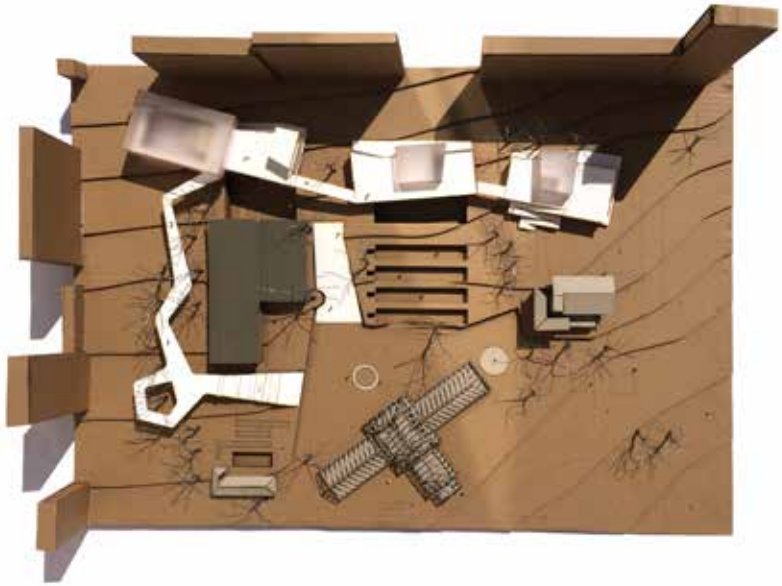


Figure 7.56
Base design 1:200 model (Author, 2016)

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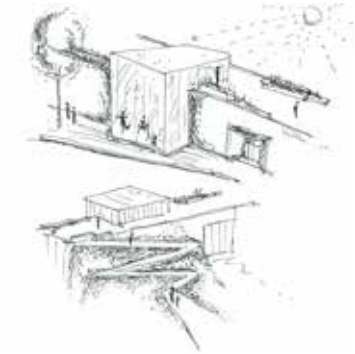


Figure 7.57
Design development sketch (Author, 2016)

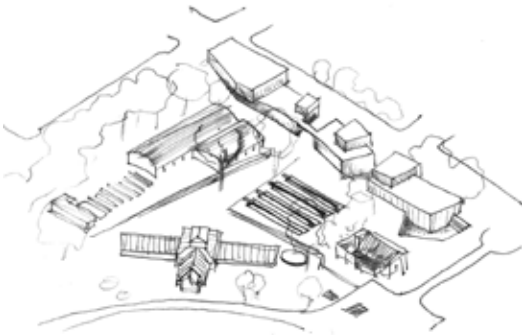


Figure 7.58
Design development sketch (Author, 2016)



Figure 7.59
Design development sketch (Author, 2016)





Figure 7.60
Rough brainstorming model (Author, 2016)



Figure 7.61
Rough brainstorming model (Author, 2016)

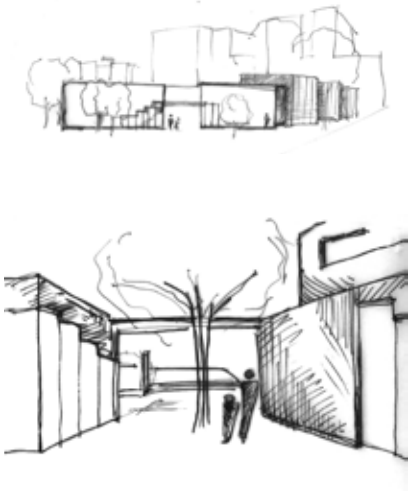
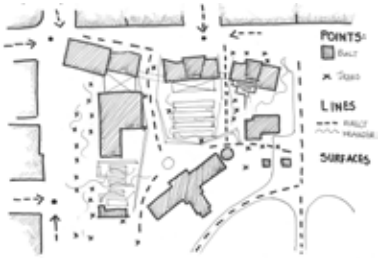
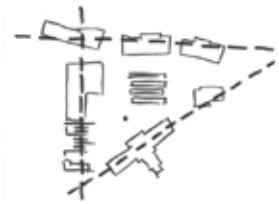


Figure 7.62
Sketch perspectives (Author, 2016)

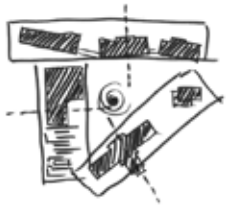
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POINTS, LINES & SURFACES



GRIDS



CENTRAL COURTYARD

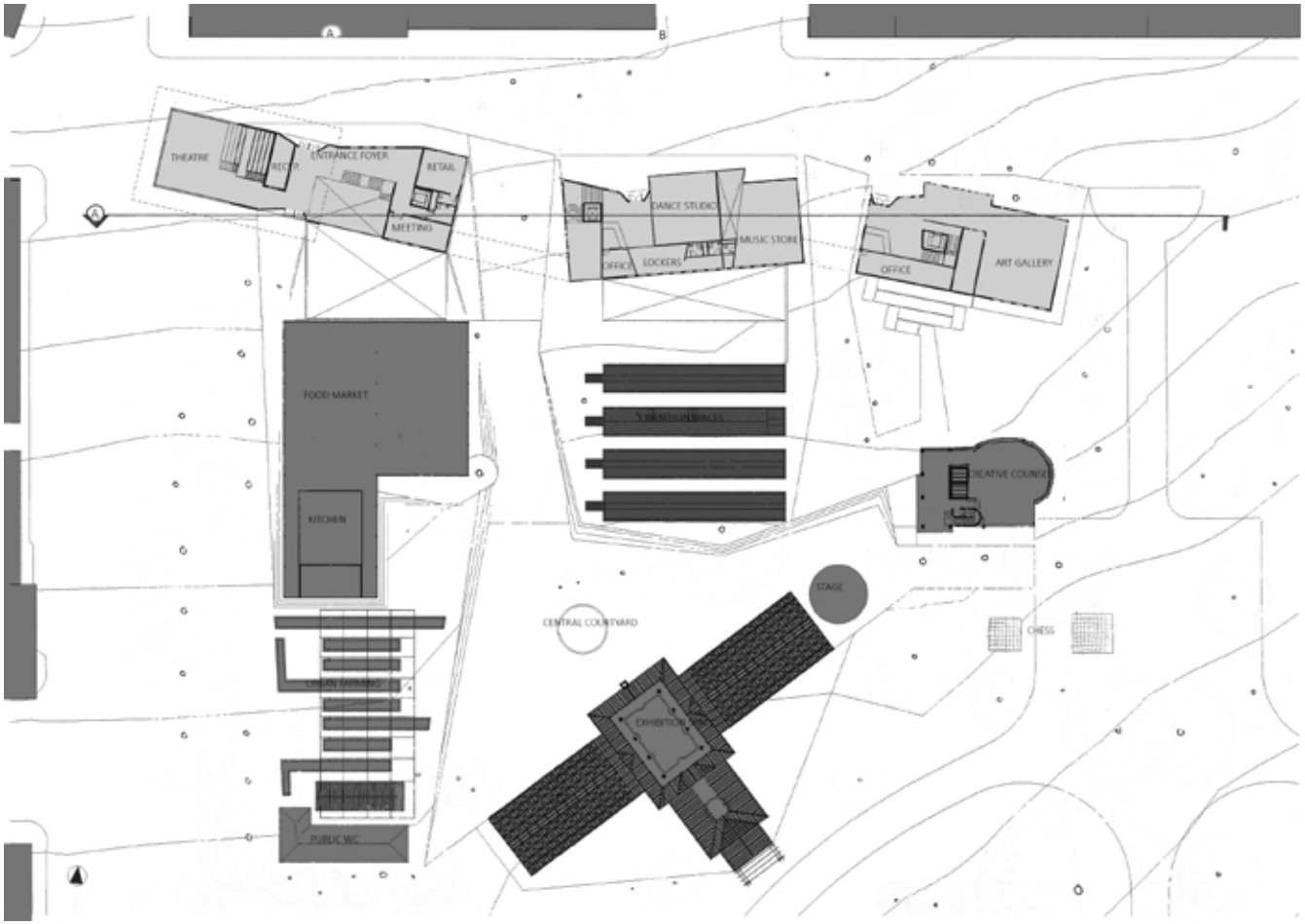


COURTYARDS



CONSERVATORIES

Figure 7.63
Diagrammatic explorations of the design (Author, 2016)



GROUND FLOOR PLAN

Figure 7.64
(Author, 2016)

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Figure 7.65
(Author, 2016)

EAST ELEVATION

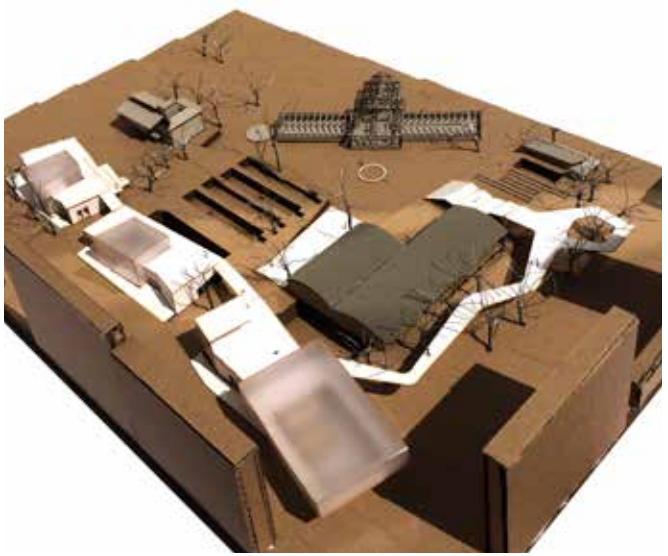


Figure 7.66
1:200 Model (Author, 2016)

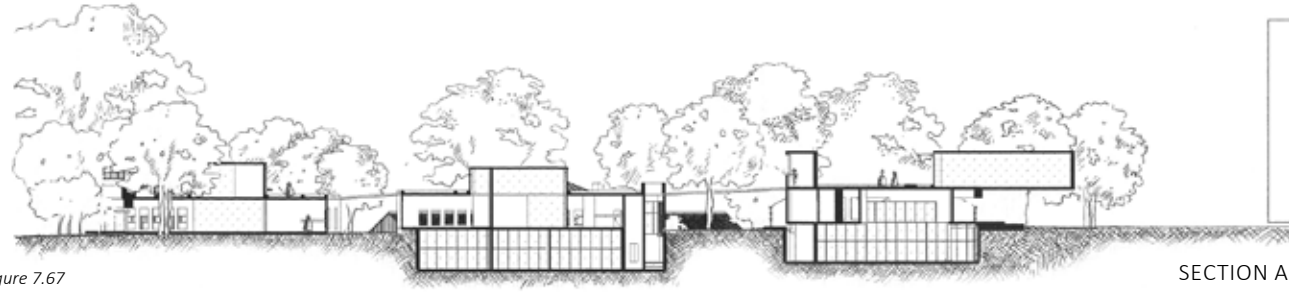


Figure 7.67
(Author, 2016)

SECTION A

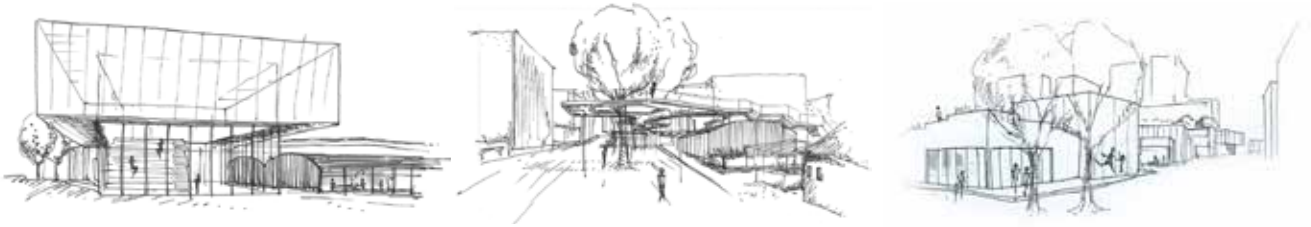


Figure 7.68
(Author, 2016)

PERSPECTIVES

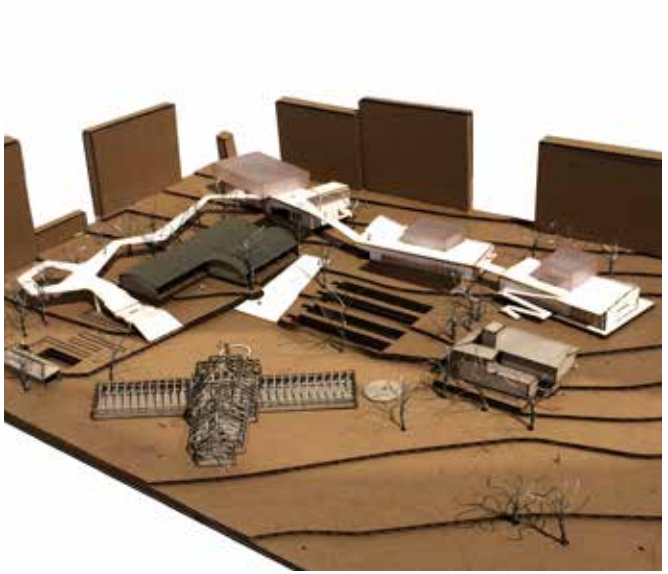


Figure 7.69
1:200 Model (Author, 2016)

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7.5.4_ITERATION 1



OUTCOME

Design Iteration 1 edited the base design to mitigate the perceived cons. The building axes were straightened to respond to the grid of the city and the entrances into the courtyard realigned to the streets (Figure 7.84). The canopy walk was eliminated and the existing architecture in the Park was considered in an attempt to connect with the new structure and the Conservatory. The polytunnels' orientation changed so that the arches faced the street and the earth building was demolished upon the discovery that it sat on the base of what was once an orchard house of heritage significance. The propagation tunnels were demolished and their footprints retained as skylights for a basement level dance studio. The building shape turned in the corner to frame another entrance into the courtyard from the NE. In later iterations of the same design, the glass boxes were tilted to try recapture the movement of the base design.

REFLECTION

Pros

- Landscaping was considered to a greater degree, creating programmed courtyards and different treatments of the land.
- Responding to the City grid had merit as a concept as it started to frame the corner of Joubert Park.

Cons

- The changes made to the base design created a boring, static building that did not reflect the creativity it housed.
- The architecture lacked hierarchy of space.
- The design became removed from the Park and the Conservatory.
- Lack of form manipulation.
- The planted roof was only accessible from the interior of the building, rendering it less public.

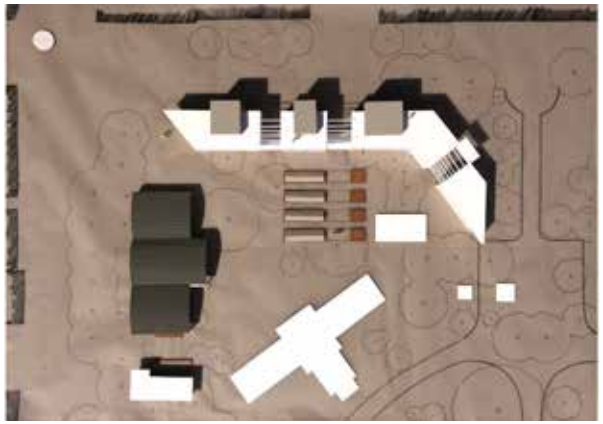


Figure 7.70
1:200 Model (Author, 2016)



Figure 7.71
1:200 Model (Author, 2016)

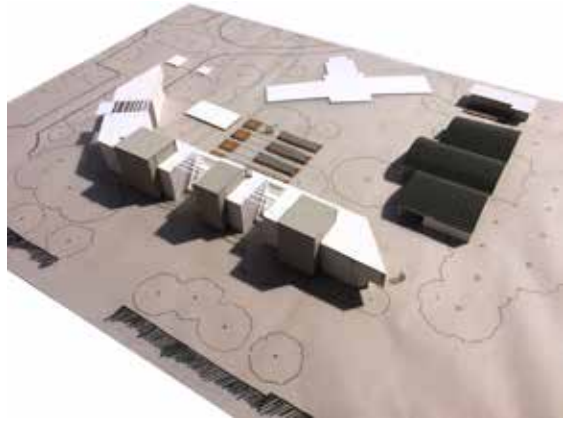


Figure 7.72
1:200 Model (Author, 2016)

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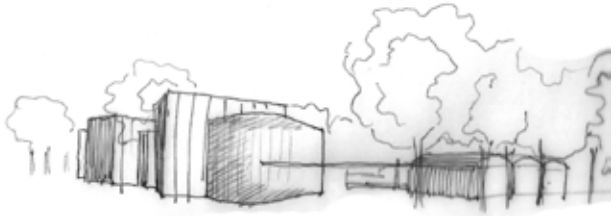


Figure 7.73
Entrance perspective (Author, 2016)

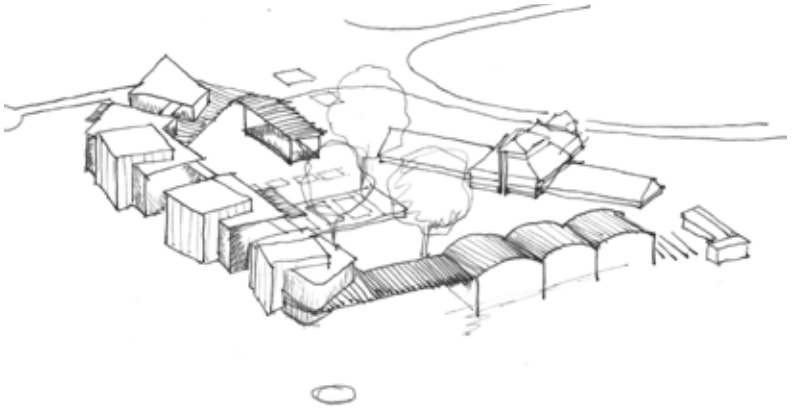


Figure 7.74
Aerial view showing the tilted boxes (Author, 2016)



Figure 7.75
Ground Floor Plan (Author, 2016)

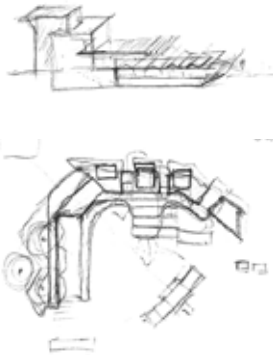


Figure 7.76
Polytunnel skylights (Author, 2016)



Figure 7.77
Considering routes and connections (Author, 2016)



Figure 7.78
(Author, 2016)

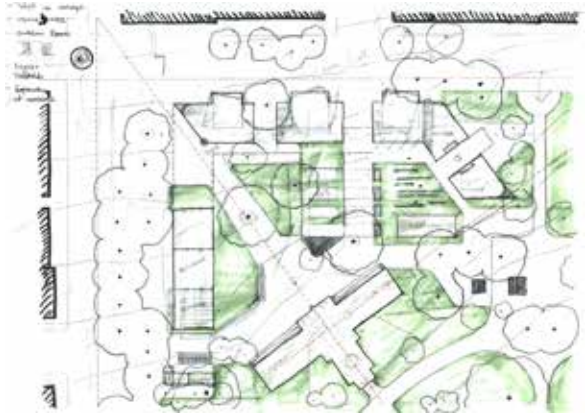
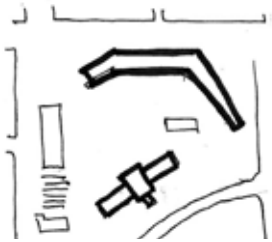


Figure 7.79
Landscaping exploration (Author, 2016)

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7.5.5_ITERATION 2



OUTCOME

Iteration 2 considered a new approach to the design intentions, moving away from the initial base design. The new building lifted up from the Park landscape and terraced towards the Conservatory in three storeys (Figure 7.88). The boxes were abandoned in place of a continuous floor plate with one long clear box on the top floor.

REFLECTION

Pros

- The concept of the building emerging from the landscape created an elegant form that framed the courtyard space well.
- The planted green roof became fully accessible to the public.
- The terraced Southern façade intended to be more sensitive to the Park.

Cons

- The building did not interact with the conditions on the site and overpowered the Conservatory.
- The sheer size of the structure was inappropriate within its landscape.
- The building became a wall to the street edge, preventing free movement into the Park (Figure 7.89).
- The iteration did not consider the positive or negative aspects of previous designs, one could say 'the baby was thrown out with the bathwater'.

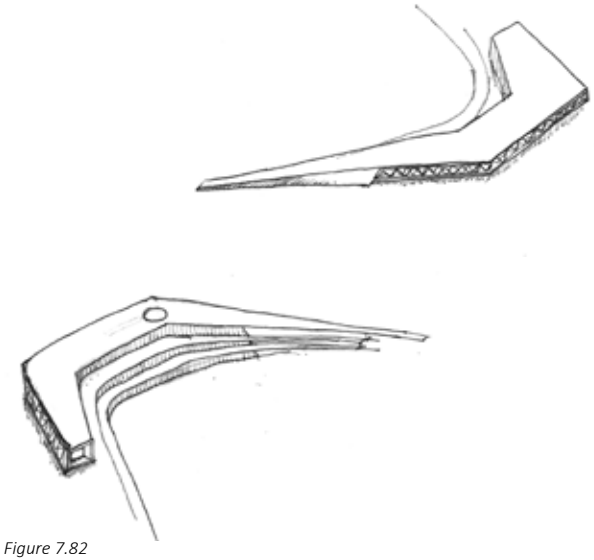


Figure 7.82
(Author, 2016)

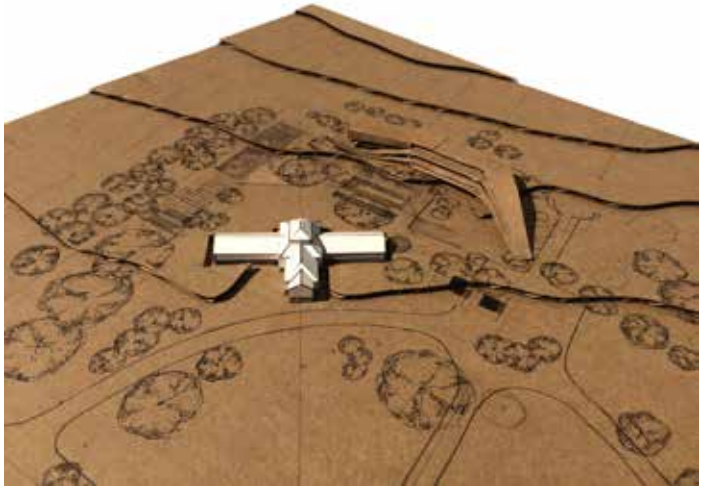


Figure 7.80
1:500 Model (Author, 2016)



Figure 7.81
1:500 Model (Author, 2016)



Figure 7.83
1:500 Model (Author, 2016)

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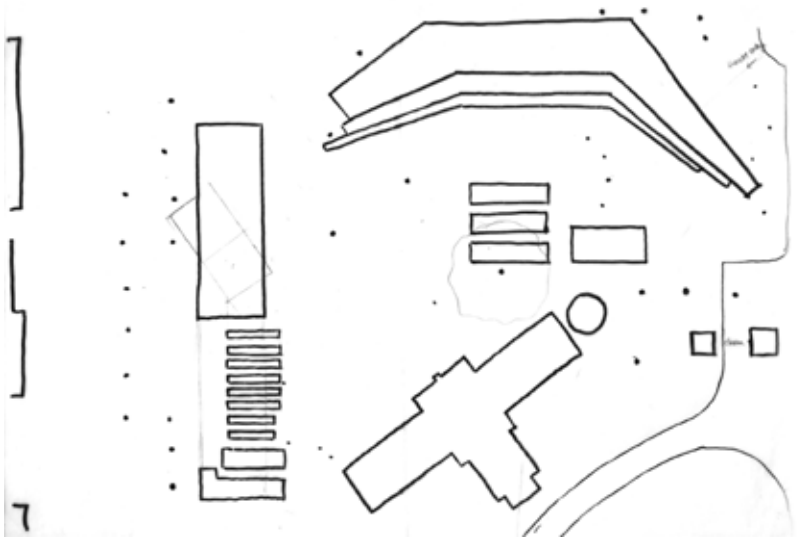


Figure 7.84
Site Plan Diagram (Author, 2016)

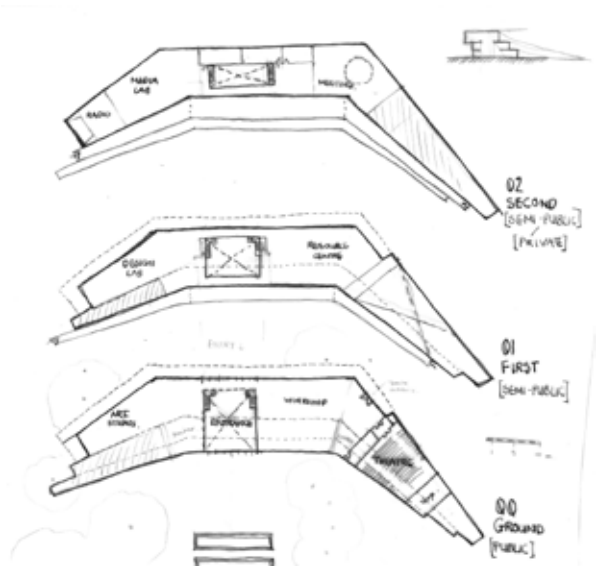


Figure 7.85
Plan exploration (Author, 2016)

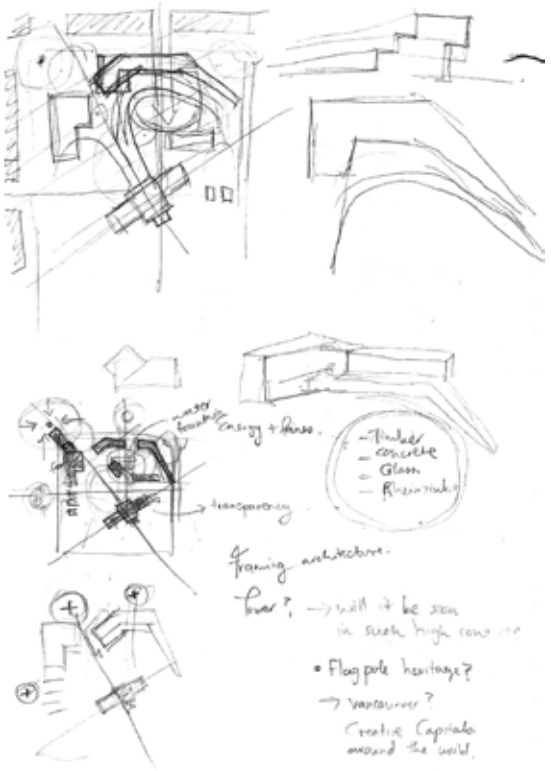


Figure 7.88
Sketchbook notes (Author, 2016)



Figure 7.86
West Elevation (Author, 2016)



Figure 7.87
Section (Author, 2016)



Figure 7.89
North Elevation (Author, 2016)

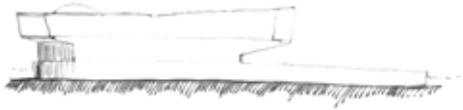
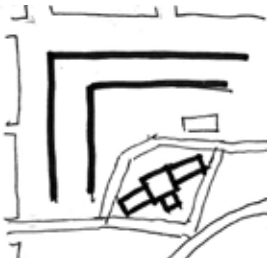


Figure 7.90
Section (Author, 2016)

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7.5.6_ITERATION 3



OUTCOME

Iteration 3 was a fusion of the base design and iteration 2, drawing on both approaches conceptually. The new building defined the edge of Joubert Park according to the City grid and framed the Conservatory and a main courtyard. The living roof rose from the landscape (Figure 7.91) with boxes of activity below (Figure 7.92). The basement level returned to a lesser degree, housing the private functions.

REFLECTION

Pros

- The design had a clear hierarchy of space created by the slope of the roof and its culmination in the corner of the site (Figure 7.95).
- The building interacted with the trees on the site, framing them and moving between them.
- The roof acted as a unifying element and had the potential to become a meandering path extending the ground plane of the Park.
- The building did not detract from the green space of the Park and was attractive when viewed from the high-rise apartment buildings.
- The boxes were transparent glass, allowing for visual and direct interaction between the public and the facilities.

Cons

- The large scale of the building was disproportionate to the Conservatory (Figure 7.94).
- The slope of the roof was impractical for human meandering.
- Although the concept of the trees coming through the roof slab was interesting, identification of the trees as London Plane Trees meant that this idea was impractical (Figure 7.95).
- The basement levels did not receive enough natural light or ventilation.
- Basements in Joubert Park were problematic due to the high water table and also aesthetically scarred the site.
- The difference between the City façade and the Park façade was not considered.
- The width of the building was excessive, structurally and contextually.

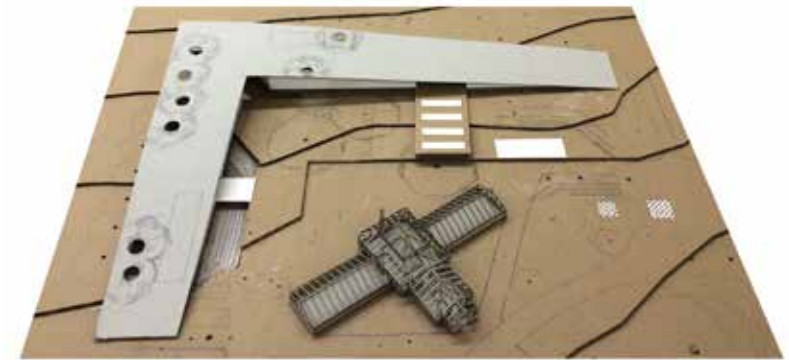


Figure 7.91
1:200 Model (Author, 2016)

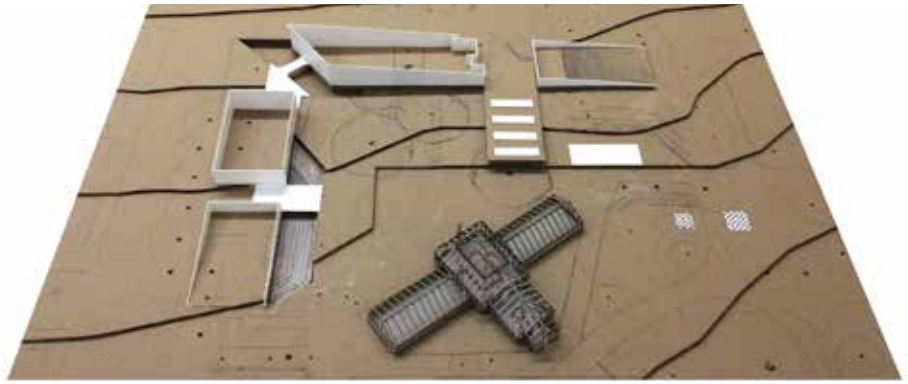


Figure 7.92
1:200 Model (Author, 2016)

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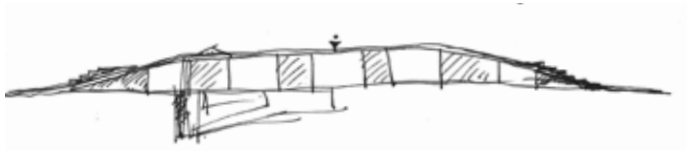


Figure 7.93
Conceptual sketch (Author, 2016)

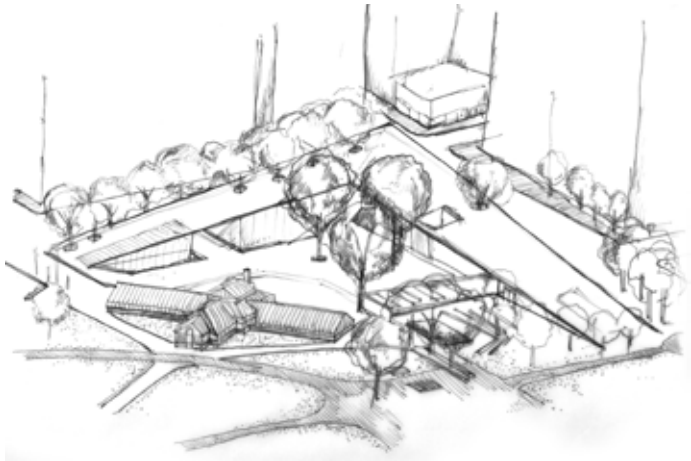


Figure 7.94
Aerial view (Author, 2016)



Figure 7.95
Entrance perspectives (Author, 2016)

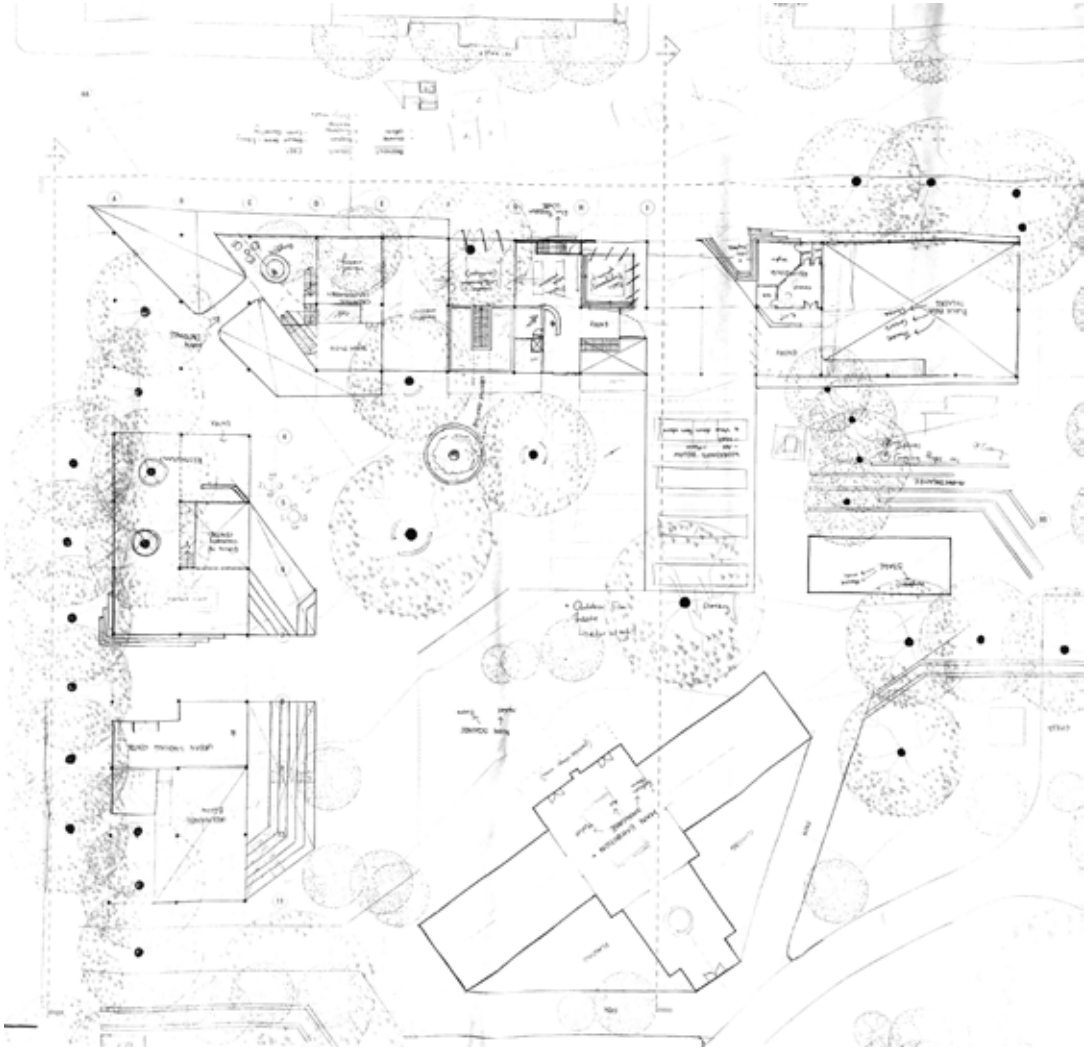


Figure 7.96
Ground Floor Plan (Author, 2016)

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7.5.7_ITERATION 4



OUTCOME

The design adapted the slope of the roof to accommodate activity with terraced seating on the steep areas and a flat roof for the majority of the surface. The basement was removed and the column grid reduced to 5x5m (Figure 7.104). The iteration never reached the stage of programming the roof and developing the landscape.

REFLECTION

Pros

- The materiality was considered, thinking about the relationship between the stereotomic roof and the tectonic, light boxes beneath it housing the functions.
- Courtyards of different characteristics were proposed, imbuing the landscape with new possibilities.

Cons

- The columns broke the façade and ruined the elegance and simplicity of the building.
- The second floor was not programmatically necessary, and increased the scale of the building dramatically for no reason.
- The form did not respond to the geometry of the Conservatory.
- The roof did not experiment with levels or engage with Swanepoel's project on the eastern side.
- The existing office building was retained, although it did not communicate with the Conservatory or the new building.

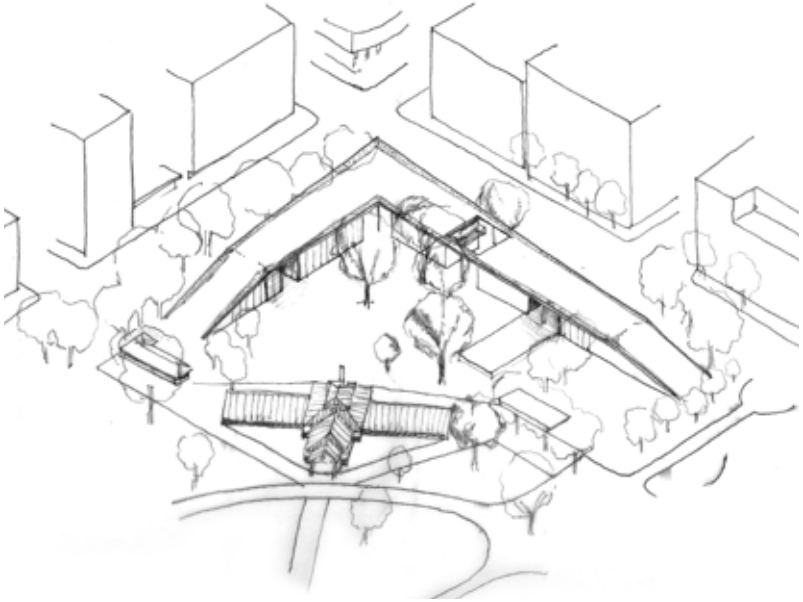


Figure 7.99
Aerial view (Author, 2016)

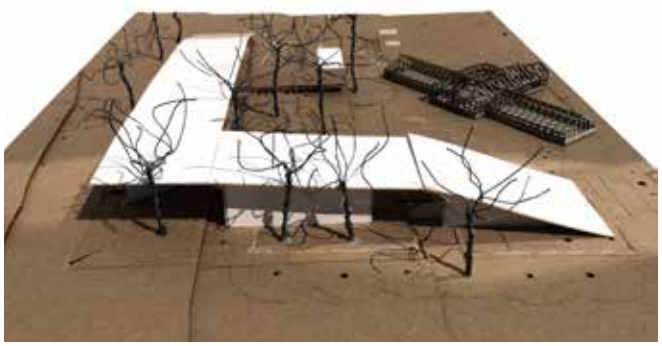


Figure 7.97
1:200 Model (Author, 2016)

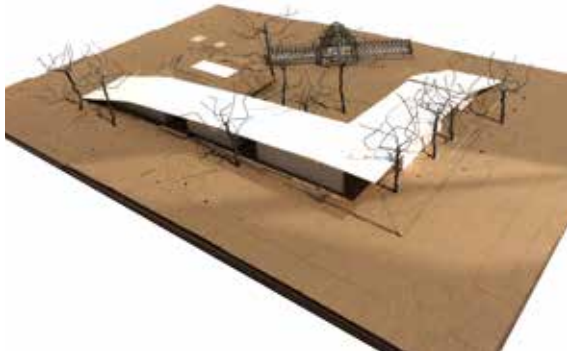


Figure 7.98
1:200 Model (Author, 2016)

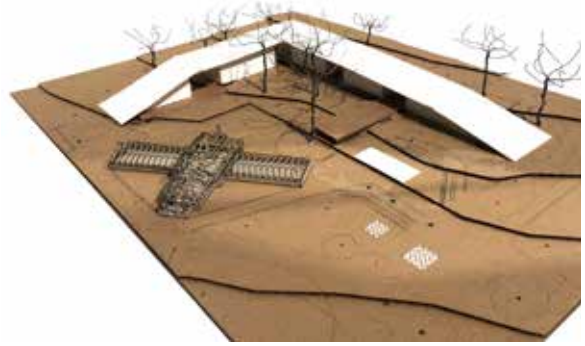


Figure 7.100
1:200 Model (Author, 2016)

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Figure 7.101
Framing views of the Conservatory (Author, 2016)



Figure 7.102
Conceptual elevation (Author, 2016)



Figure 7.103
Main entrance (Author, 2016)

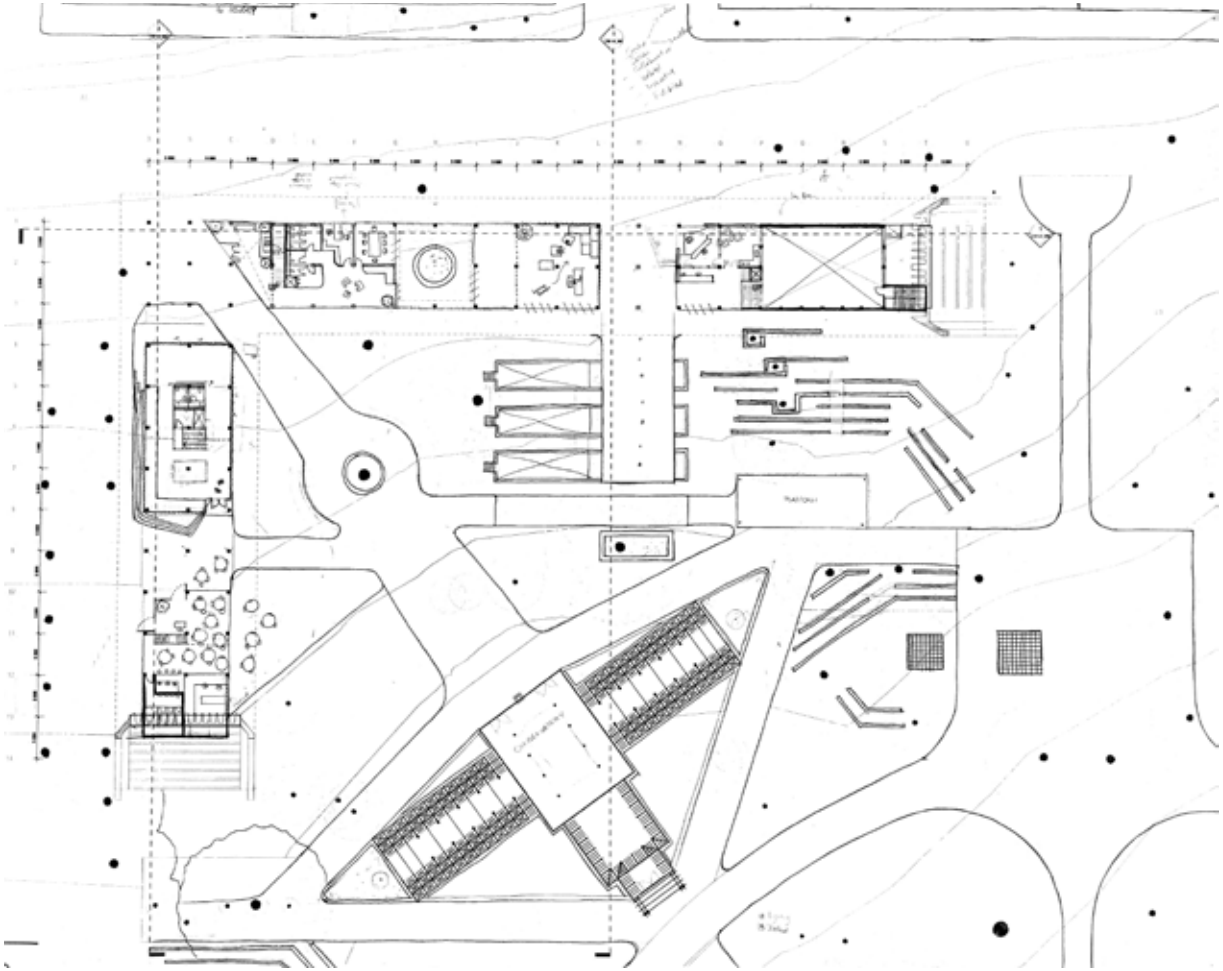
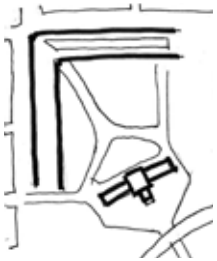


Figure 7.104
Ground Floor Plan (Author, 2016)

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7.5.8_ITERATION 5



OUTCOME

Iteration 5 started exploring a second floor piercing though the monolithic roof, reminiscent of the base design (Figure 7.107). The second floor had a tectonic nature and ran along the northern façade, leading towards Swanepoel's intervention. The length of the building extended to the south to accommodate programmatic requirements on one floor only and better frame the Conservatory. (Figure 7.105)

The programmatic organisation was reconsidered, placing restaurants at entrances to keep eyes on the street. A vertical element in the form of a radio tower, was proposed to contrast the extensive horizontal façade of the building. The landscape was designed around the Conservatory, asserting the structure as an iconic object in space (Figure 7.108).

REFLECTION

Pros

- The scale of the building was more appropriate and sensitive to the Conservatory and Park
- The radio tower became a prominent feature reaffirming the entrance (Figure 7.107)
- The box penetrating the roof explored an interaction between the stereotomic and tectonic elements of the building
- Entrance points into the central courtyard were well placed and articulated (Figure 7.109)

Cons

- The terracing on the Park side of the building broke the illusion of the boxes lightly sitting on the grass
- The landscaping surrounded the Conservatory but needed to be developed to connect the new building to the existing heritage fabric

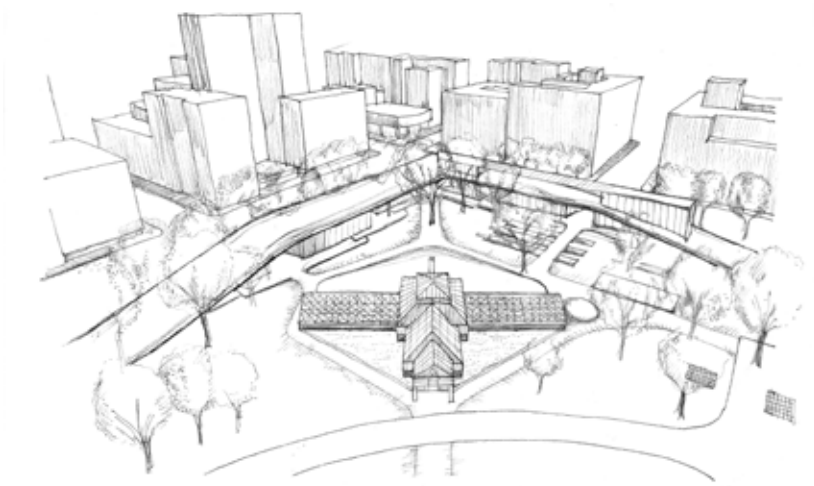


Figure 7.106
Aerial view (Author, 2016)

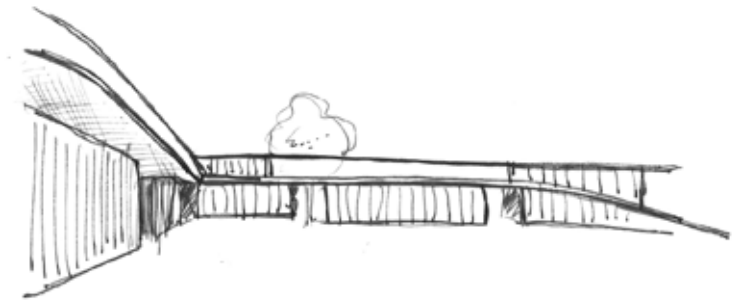


Figure 7.105
Courtyard perspective (Author, 2016)

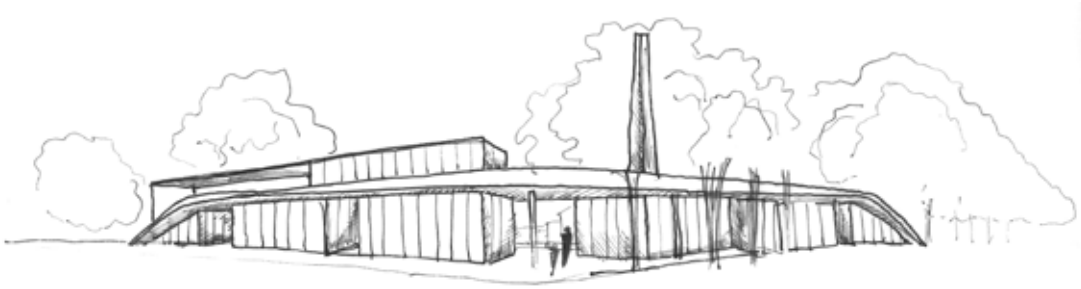


Figure 7.107
Main entrance perspective (Author, 2016)

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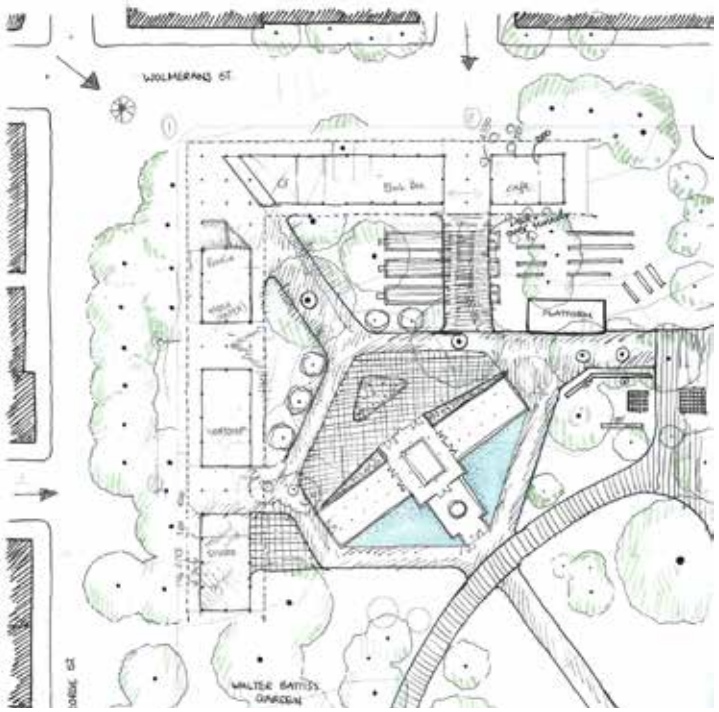


Figure 7.108
Landscape design (Author, 2016)

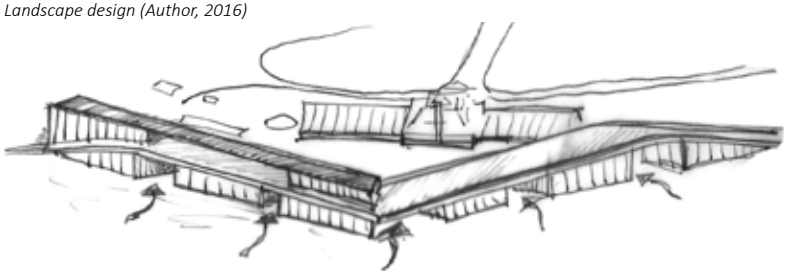


Figure 7.109
Points of access (Author, 2016)

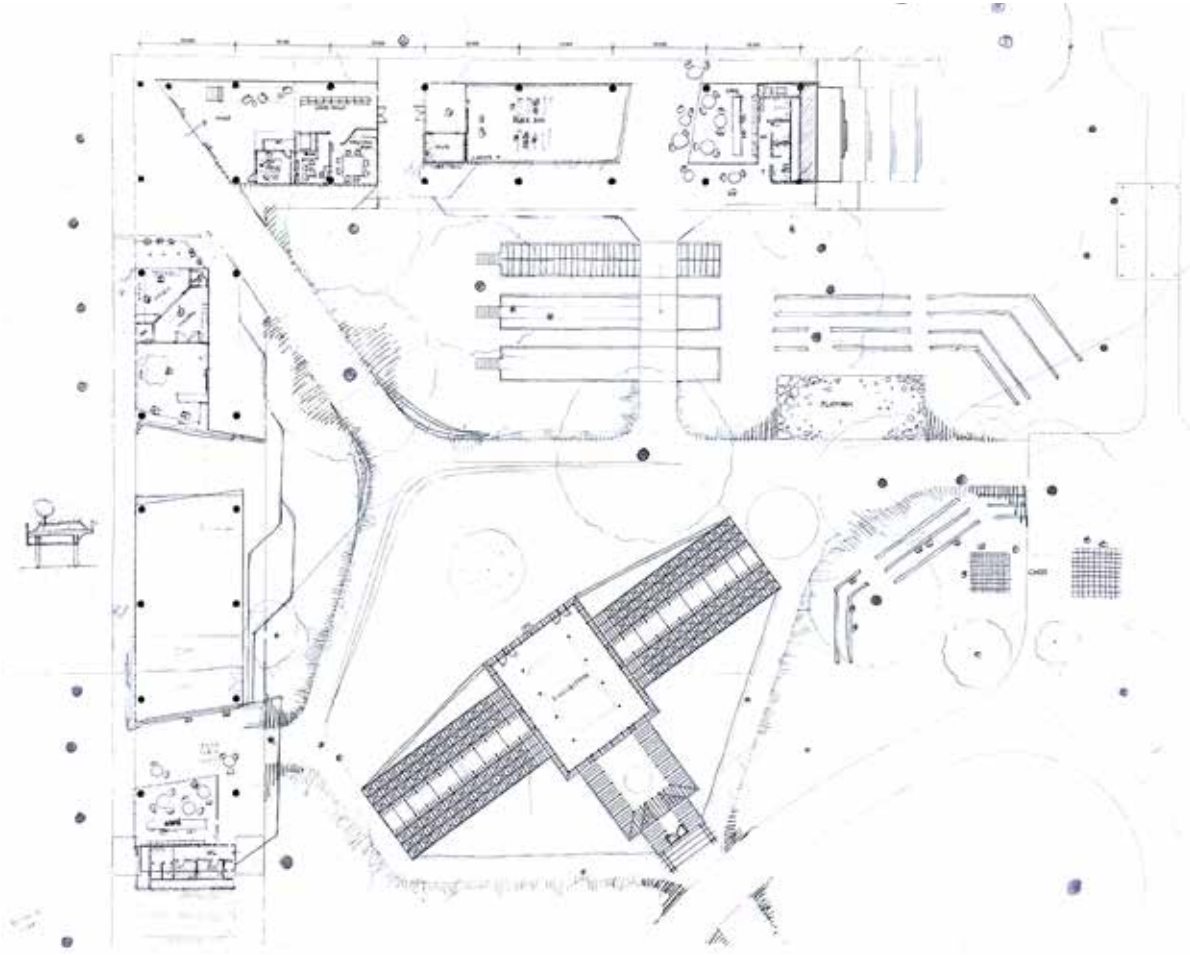


Figure 7.110
Ground Floor Plan (Author, 2016)

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7.5.9_ITERATION 6



OUTCOME

Iteration 6 started pushing and pulling the boxes to create a dynamic interface with the street edge (Figure 7.112). Changes were made to the ceiling heights according to the functions below and glass panels became opaque over private areas. The canopy walk was reintroduced as a tectonic element winding between the trees and the propagation tunnels were given the function of a vertical wetland system, drawing from their heritage as planted spaces. The eastern edge of the building continued to develop in its response to Swanepoel's design, with the columns of the pergola responding to the buildings stilts. Interior spatial planning developed, as well as the relationship between interior and exterior spaces.

REFLECTION

Pros

- The adjustment of the depth and size of the boxes created more interesting spaces.
- Introducing ceilings provided space for services as the façade is primarily glazed and has limited service space.
- Iteration 6 considered the landscaping of the roof as an experience, such as framing views of the City and Park in certain spaces.
- The sustainability of the building was considered, such as passive thermal and lighting systems as well as opportunities for water collection and filtration.

Cons

- The Park landscaping alienated the Conservatory from the new architecture and broke up the courtyard (Figure 7.113).
- The programming of the Conservatory was not sufficiently considered.
- The balustrade was solid, inhibiting views from the planted roof for sitting people and children.

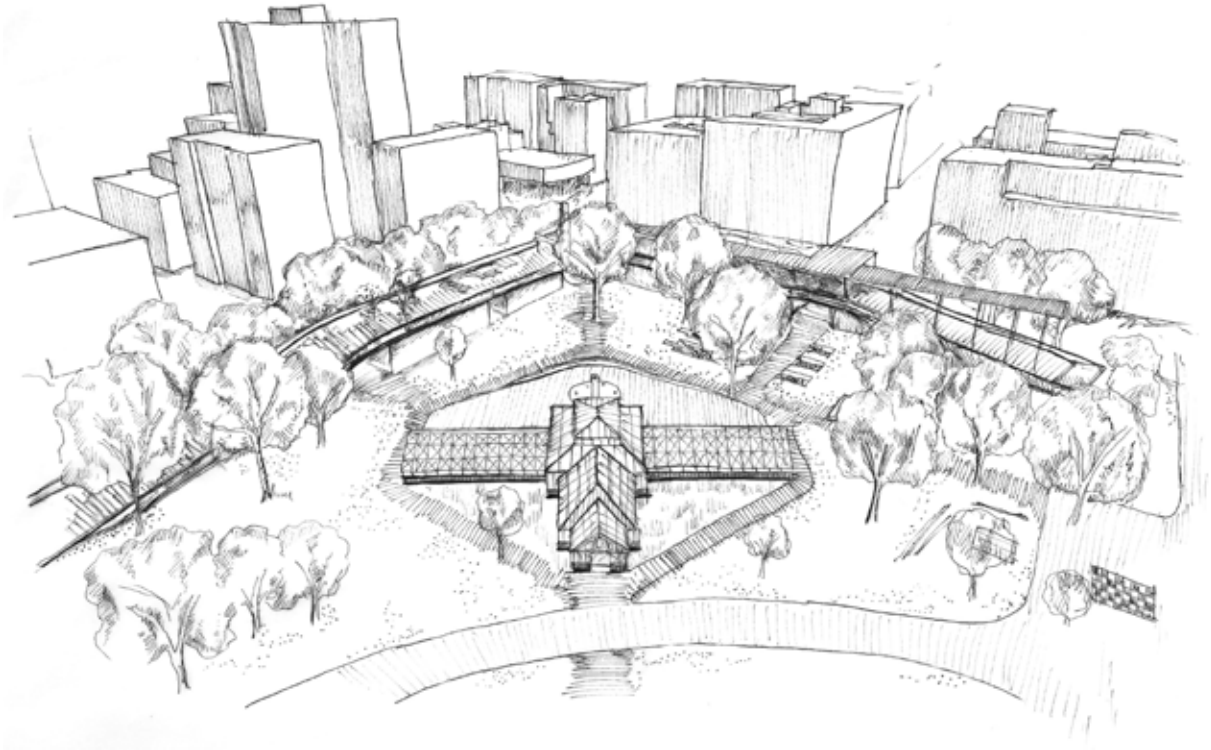


Figure 7.111
Aerial view (Author, 2016)

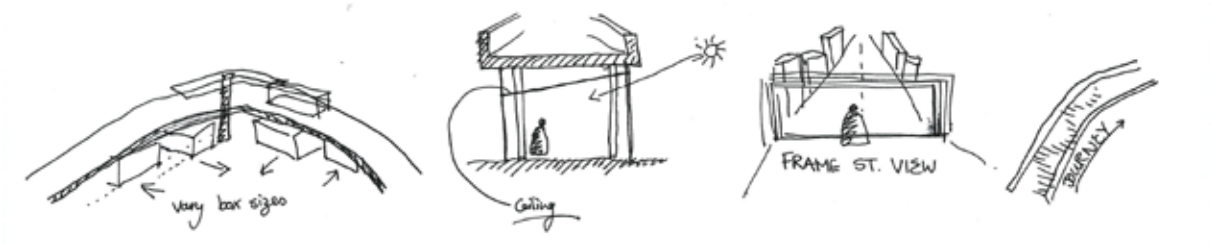


Figure 7.112
Diagramatic conceptual explorations (Author, 2016)

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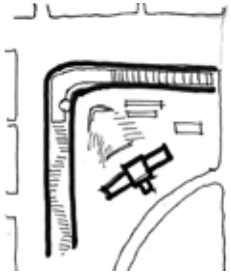


GROUND FLOOR PLAN

Figure 7.113
(Author, 2016)

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7.5.10_ITERATION 7 [FINAL]



OUTCOME

Iteration 7 focused on developing the edges of the building and the interface between the interior and exterior and how the programmes within responded to and activated the street edge and the courtyard. The ground level landscaping was completely reconfigured to create a generous courtyard appropriate for large events (Figure 7.116 illustrates various approaches to the landscaping). The connection to the central fountain of Joubert Park was also developed (Figure 7.115), as well as the interaction between the building and the playground to the south and Swanepoel's project to the east.

REFLECTION

- The balustrade became clear to allow better views of the Park from the roof (Figure 7.117).
- The landscaping integrated the old with the new and became the unifying element of the design.
- The Conservatory became functionally more important and adjustments were made to the architecture to make it more accessible, such as the introduction of entrances at the wings.

The final iteration formed the base of the design as it was taken into technological resolution.

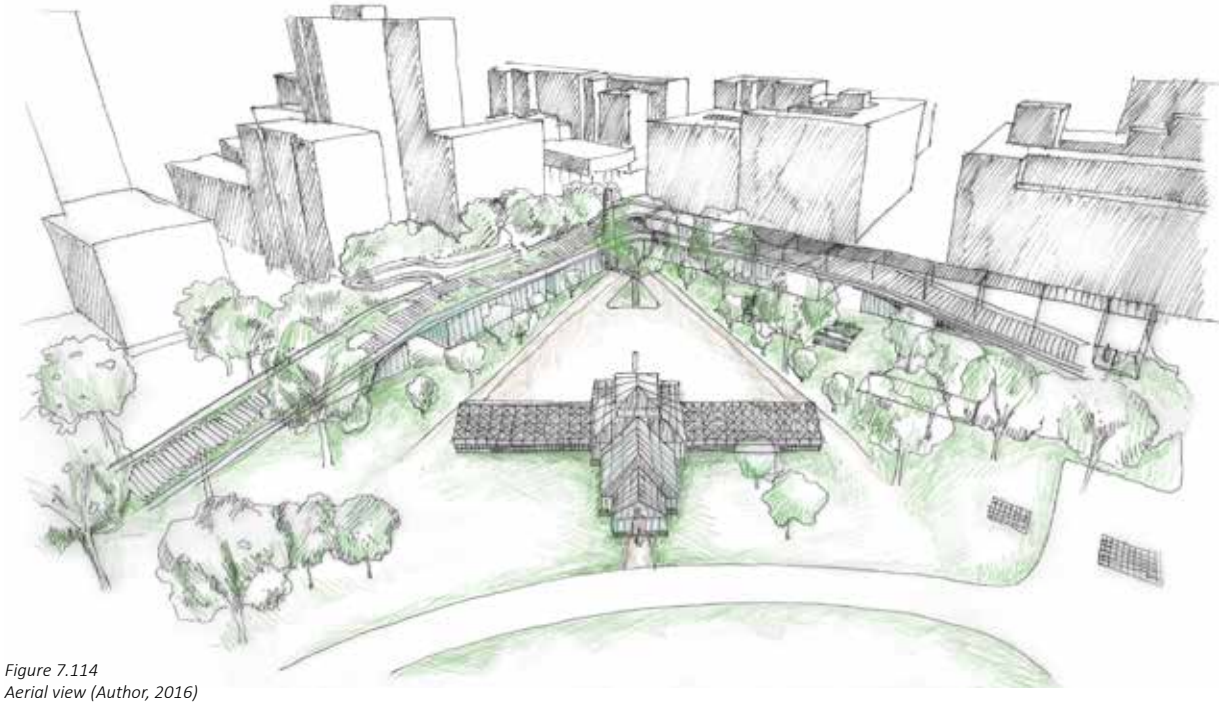


Figure 7.114
Aerial view (Author, 2016)

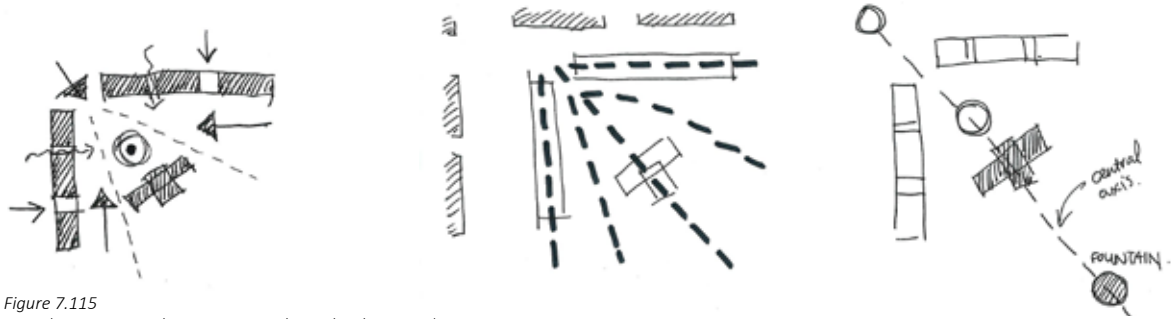


Figure 7.115
Parti diagrams considering access and axes (Author, 2016)

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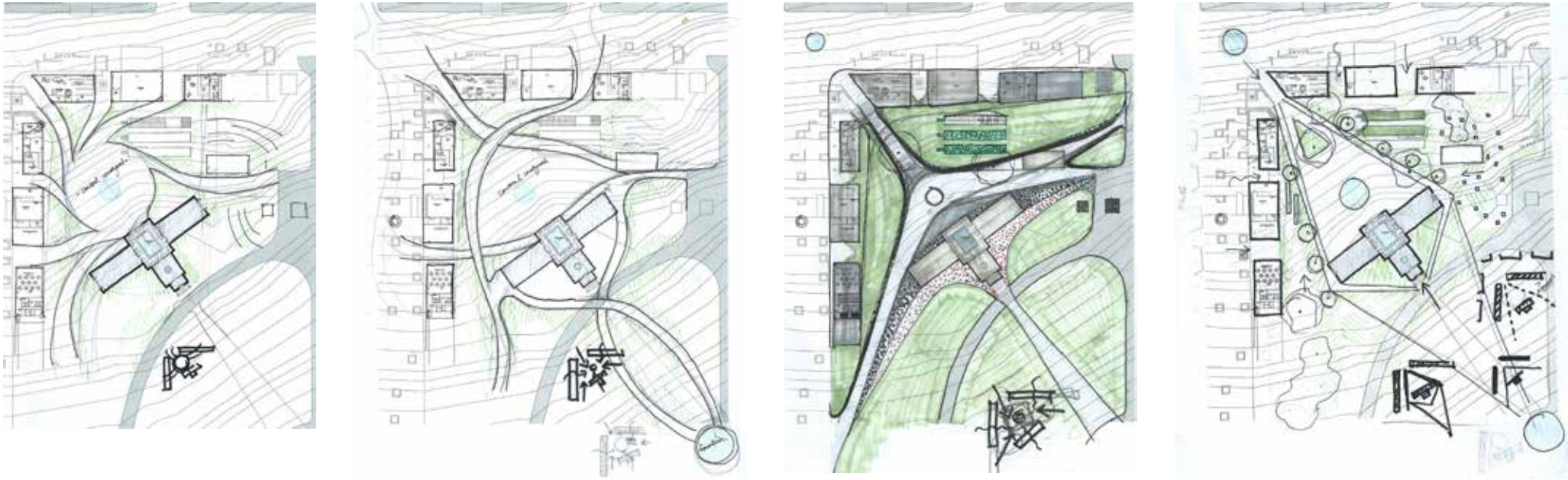


Figure 7.116
Landscape development (Author, 2016)

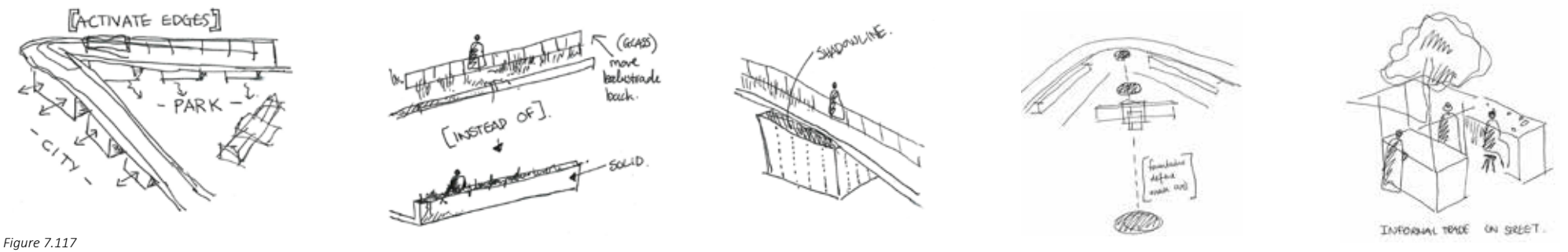


Figure 7.117
Diagrammatic considerations (Author, 2016)

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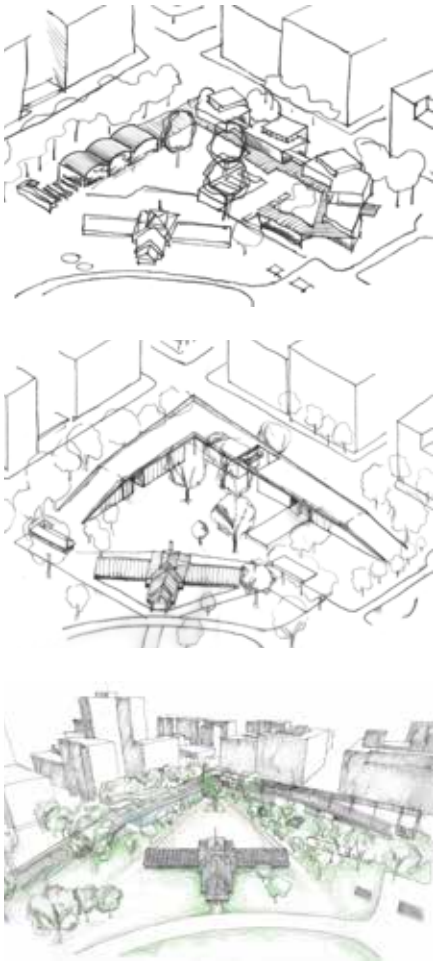


Figure 7.118
Sketch development (Author, 2016)

7.6_SYNOPSIS

The conceptual and design development iterated the architectural response to aforementioned design informants, finally culminating in a design explored in iteration 7, which is discussed and illustrated in full in Chapter 8.

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Figure 8.1

CHAPTER 08

THE FINAL DESIGN

Chapter 8 presents the final design for the Creative Conservatory Precinct, the culmination of the conceptual exploration and design development.

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8.1_ INTRODUCTION

The final design resolution for the Creative Conservatory is the product of the contextual analysis, theoretical investigations, programmatic studies as well as the conceptual and design development illustrated in the document thus far.

Note:
All figures in this chapter are by the author.



Figure 8.2

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8.2_THE POWER OF 10

The theory of the Power of Ten states that a great public place offers a variety of activities which overlap and generate energy (Project for Public Spaces, 2016). The three scales of the theory are expressed in the final project as follows:

8.2.1_REGION

INNER CITY JOHANNESBURG, PREVIOUSLY THE 'UITVALGROND'

A region ought to have at least 10 nodal destination

Inner city Johannesburg already has many destinations, and aims to develop further nodes with a focus on cultural activity, so as to drive the Cultural Capital identity (The City of Johannesburg, 2007). One such destination is Joubert Park, located in the centre of the area once known as the Uitvalgrond. This dissertation explores Joubert Park as an iconic public place and cultural node, building off the presence of JAG and by introducing further interventions, such as the CC.

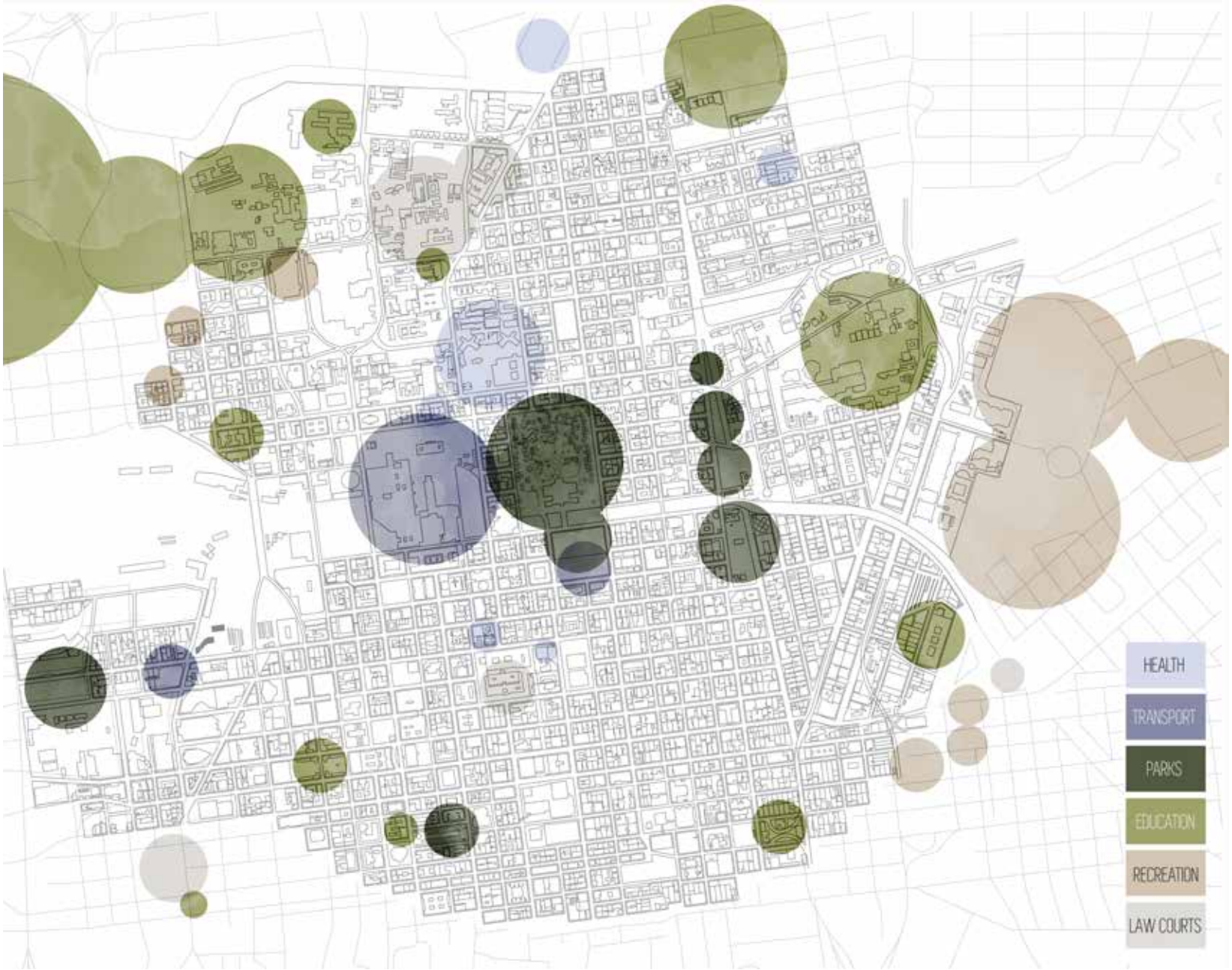


Figure 8.3

© University of Pretoria

8.2.2_DESTINATION
THE JOUBERT PARK PRECINCT

A destination should have at least 10 places

Within Joubert Park, there are various places with different qualities and possibilities, from JAG, to the bandstand and central fountain. With the introduction of the CC, the Conservatory Complex will become an exciting creative place, inspiring activity and expression.

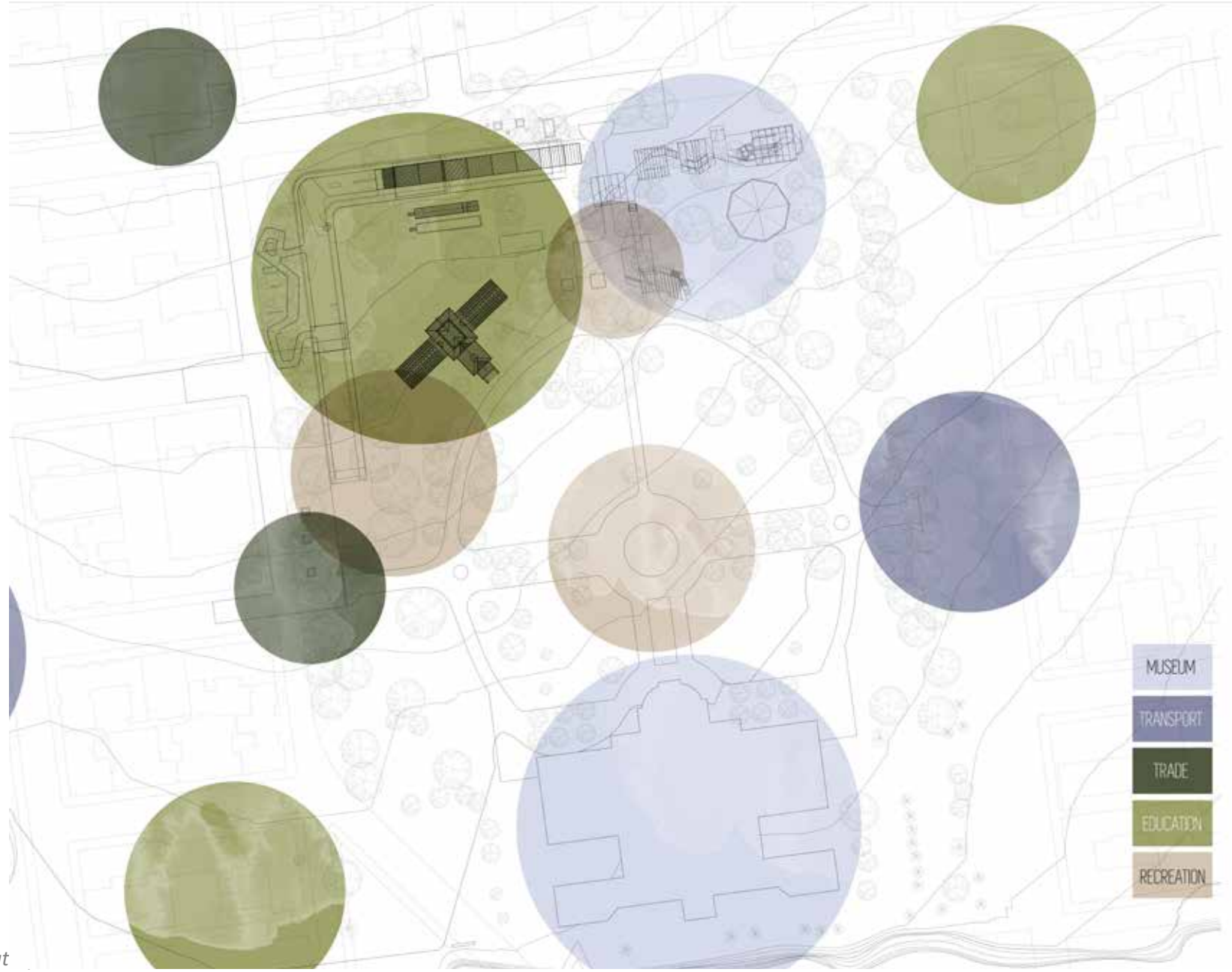


Figure 8.4

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8.2.3_PLACE
THE CONSERVATORY COMPLEX

A place should offer at least 10 activities, which are layered to create synergy

The Creative Conservatory offers a multitude of activities which are layered to create synergy. Activities build off the clustering of the creative events taking place within the Complex and the cross-pollination between the facilities as well as the formal and informal interaction with the community.

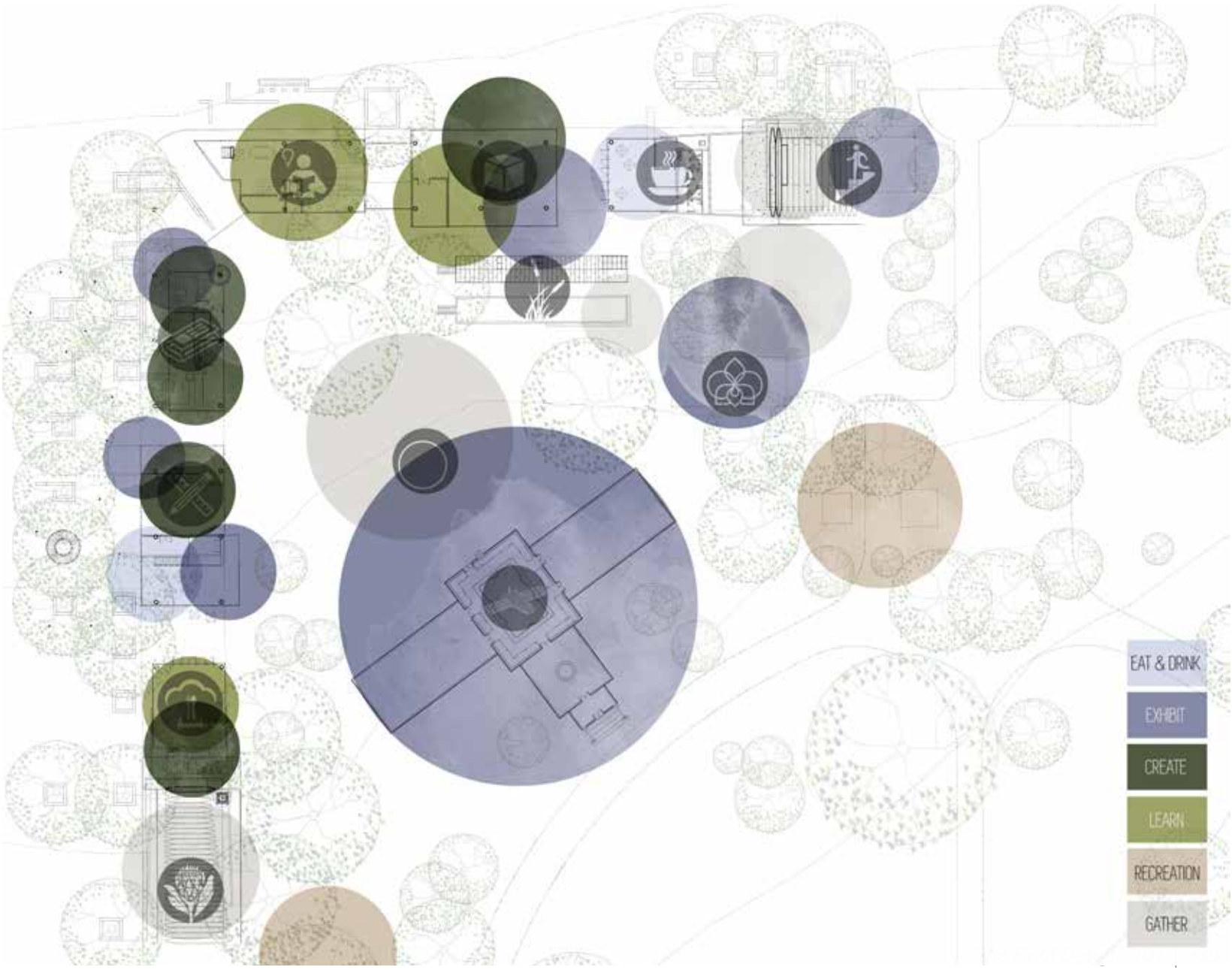


Figure 8.5

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8.3_DIAGRAMS

8.3.1_ NEW & EXISTING ARCHITECTURE

The new architectural intervention of the CC (dark purple) frames the Conservatory heritage building (light purple) and the boundary of Joubert Park.

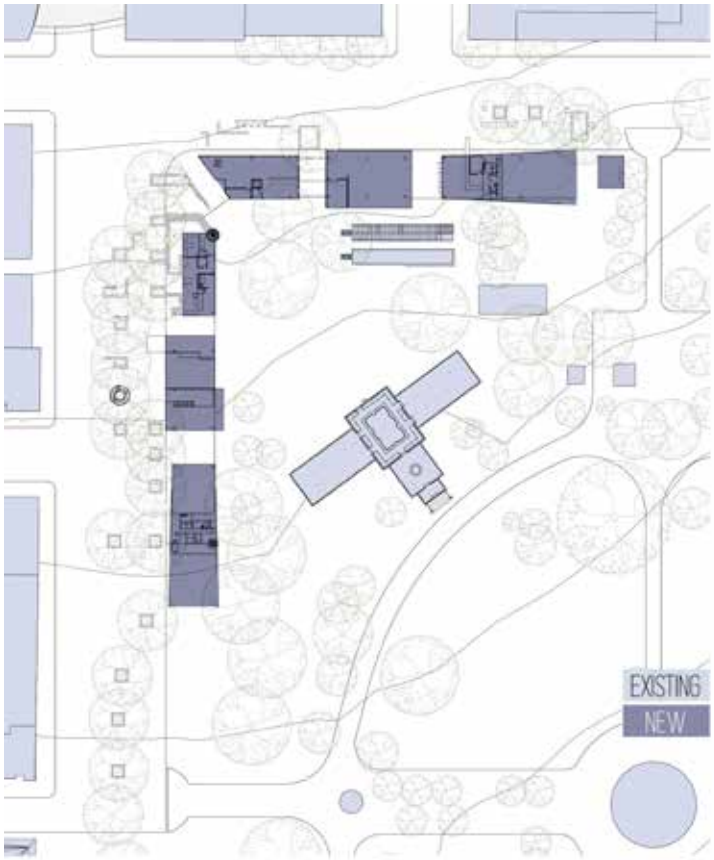


Figure 8.6

8.3.2_ GEOMETRY & RATIOS

The new CC building responds to the City grid, as seen in adjacent buildings and streets, and aligns with the original corner boundary of Joubert Park. The 9m column grid echoes the width of the heritage conservatory's wings.

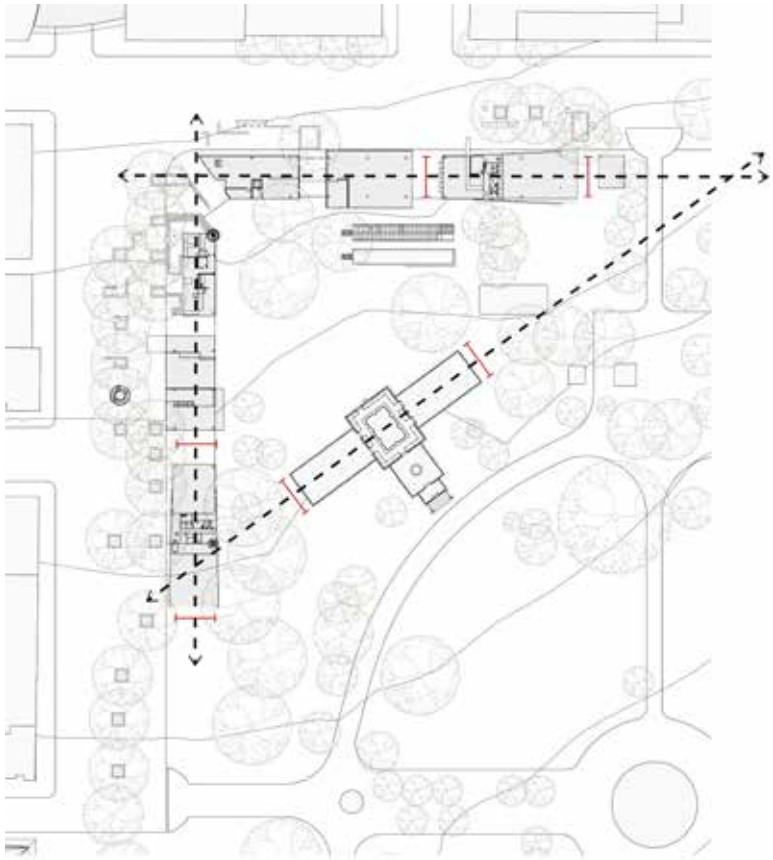


Figure 8.7

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8.3.3_ ACCESS

Access into the central Conservatory Plaza is approached through primary, secondary, and tertiary access points.

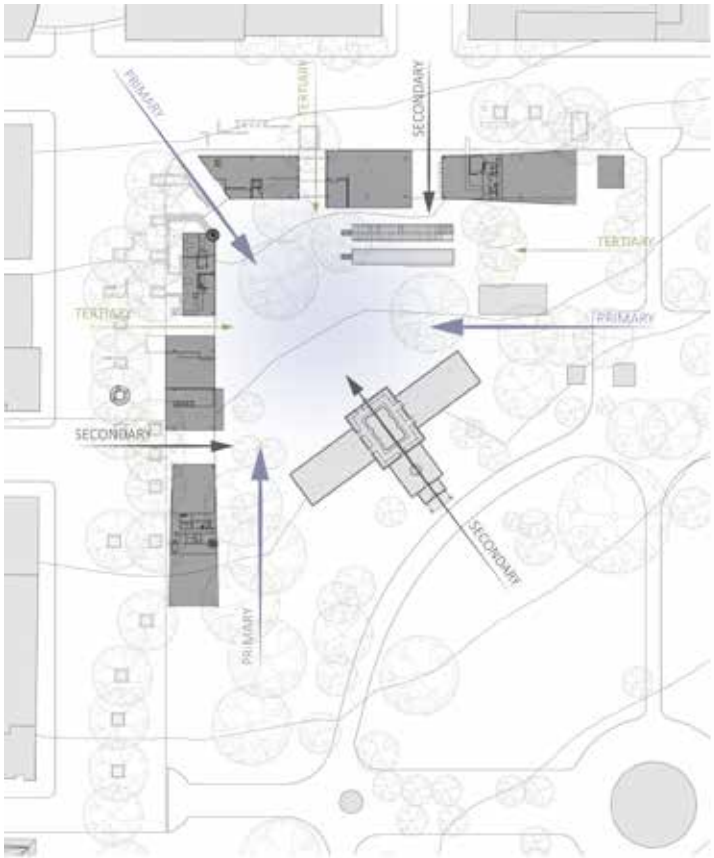


Figure 8.8

8.3.4_ PROGRAMME PLACEMENT

The placement of the programmes discussed in Chapter 6 are indicated on the diagram below, with indoor functions in purple and outdoor facilities in green.

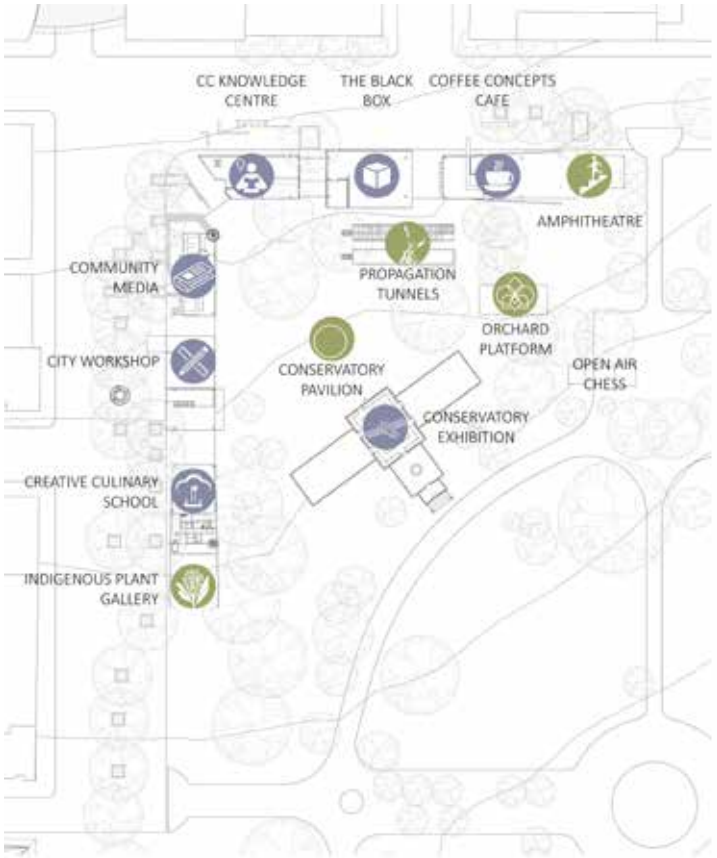


Figure 8.9

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8.4_ PLANS

8.4.1_SITE PLAN

The CC site plan contextualises the CC in relation to the existing urban fabric (grey), Joubert Park, and Swanepoel's proposed Urban Archive.

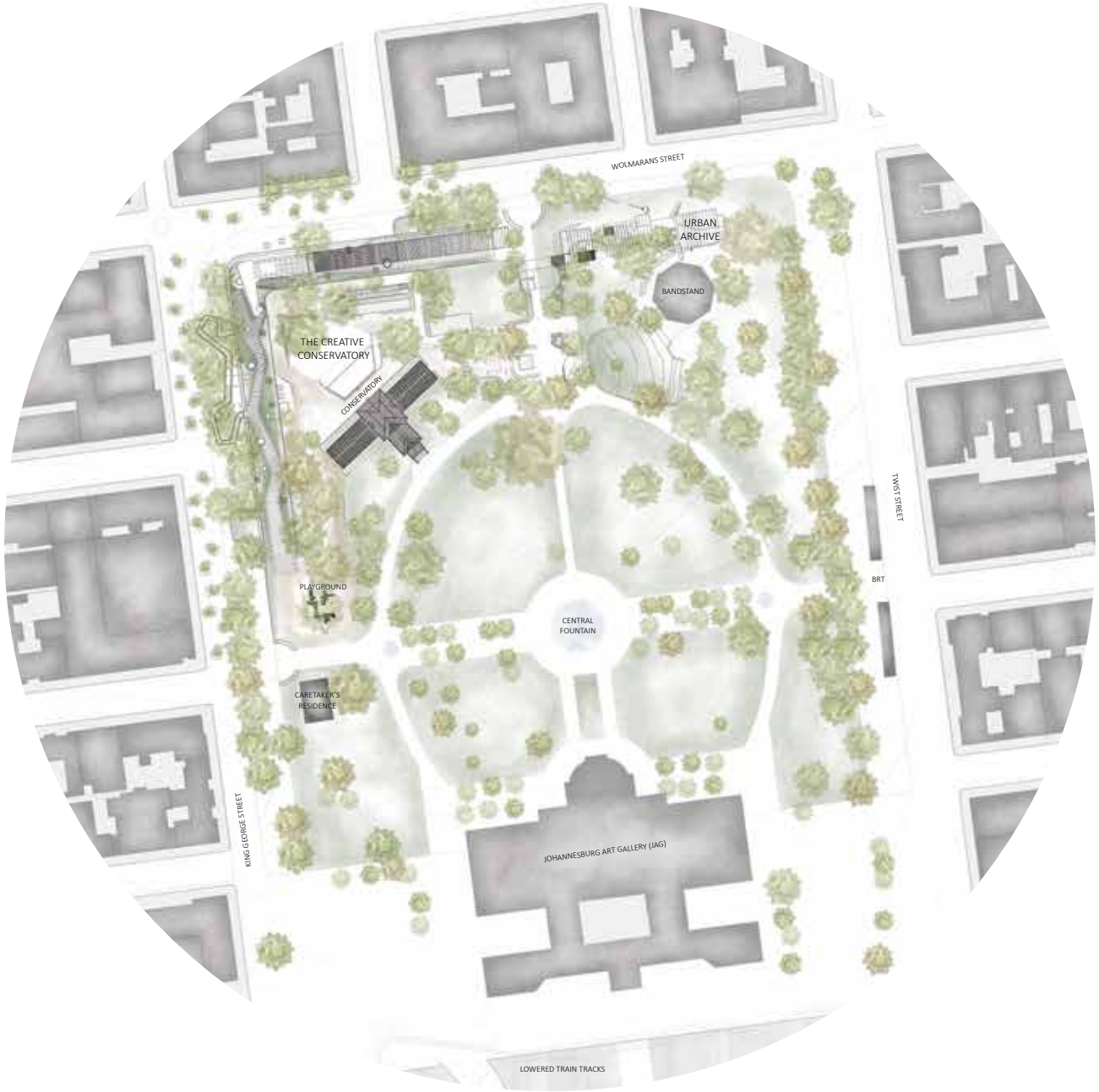


Figure 8.10

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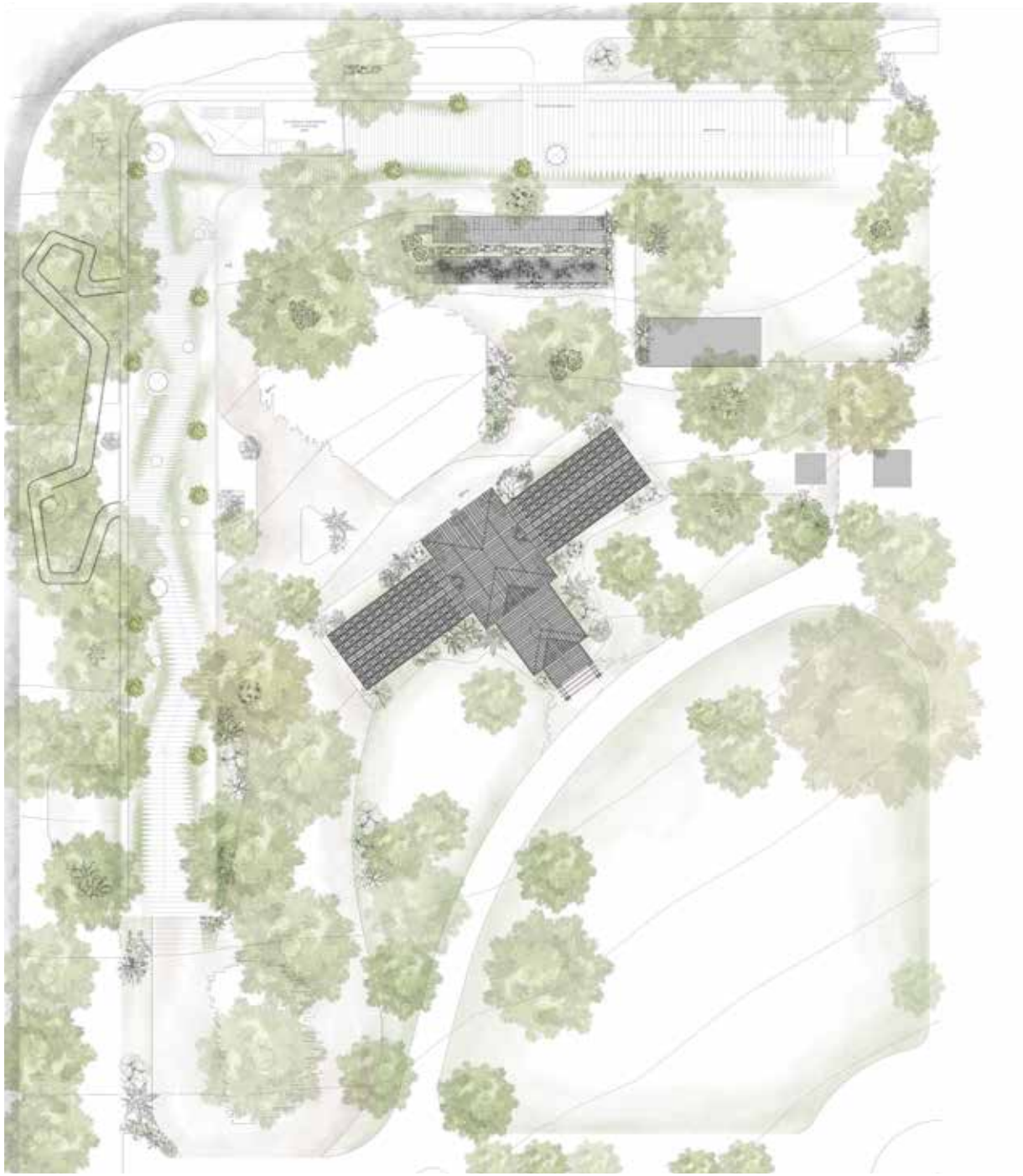
8.4.3_ FIRST FLOOR PLAN

The Creative Conservatory Knowledge Centre's meeting space opens up onto the roof terrace, which extends to the east, finally transitioning into the open air amphitheatre. People walking on the planted roof will notice indigenous flora and the fauna they attract. Skylights puncture the roof emitting light into the blocks below. These skylights are designed to accommodate the weight of people walking over them.

The planted roof of the CC emerges from the Park creating a meandering route along a secondary ground plane. The southern entrance onto the roofscape provides seating overlooking the Park and the playground.



Figure 8.11



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8.4.4_ GROUND FLOOR PLAN

The Creative Conservatory defines the corner of Joubert Park and its spatial planning is arranged in blocks, each fulfilling a different programmatic function. Each block will be discussed in detail in this chapter. The blocks are positioned so as to frame the Conservatory and entrances into the central plaza. The planning engages with the street edges, activating the public realm, and spills out into Joubert Park.

Detailed callouts at 1:200 scale to follow.

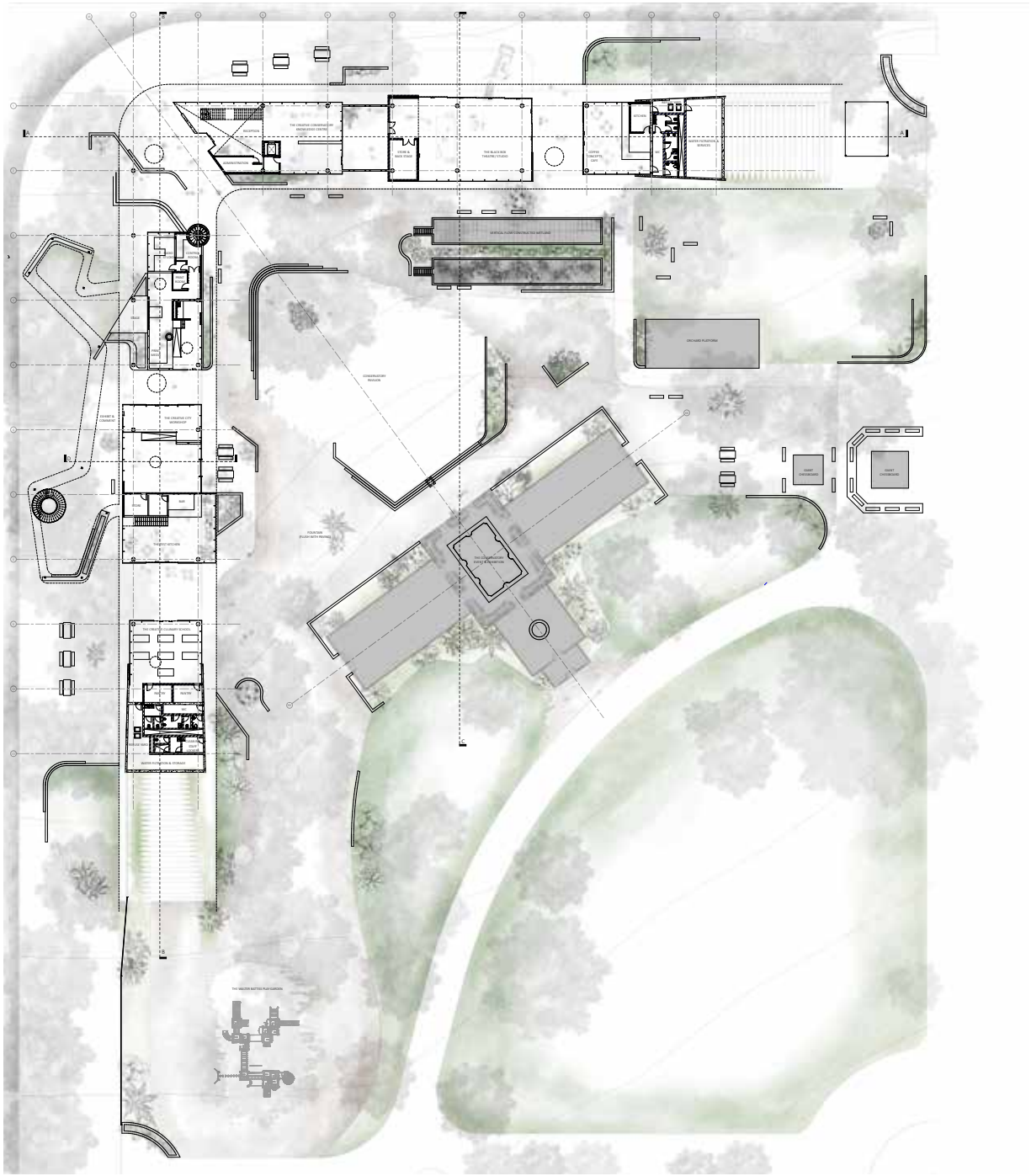




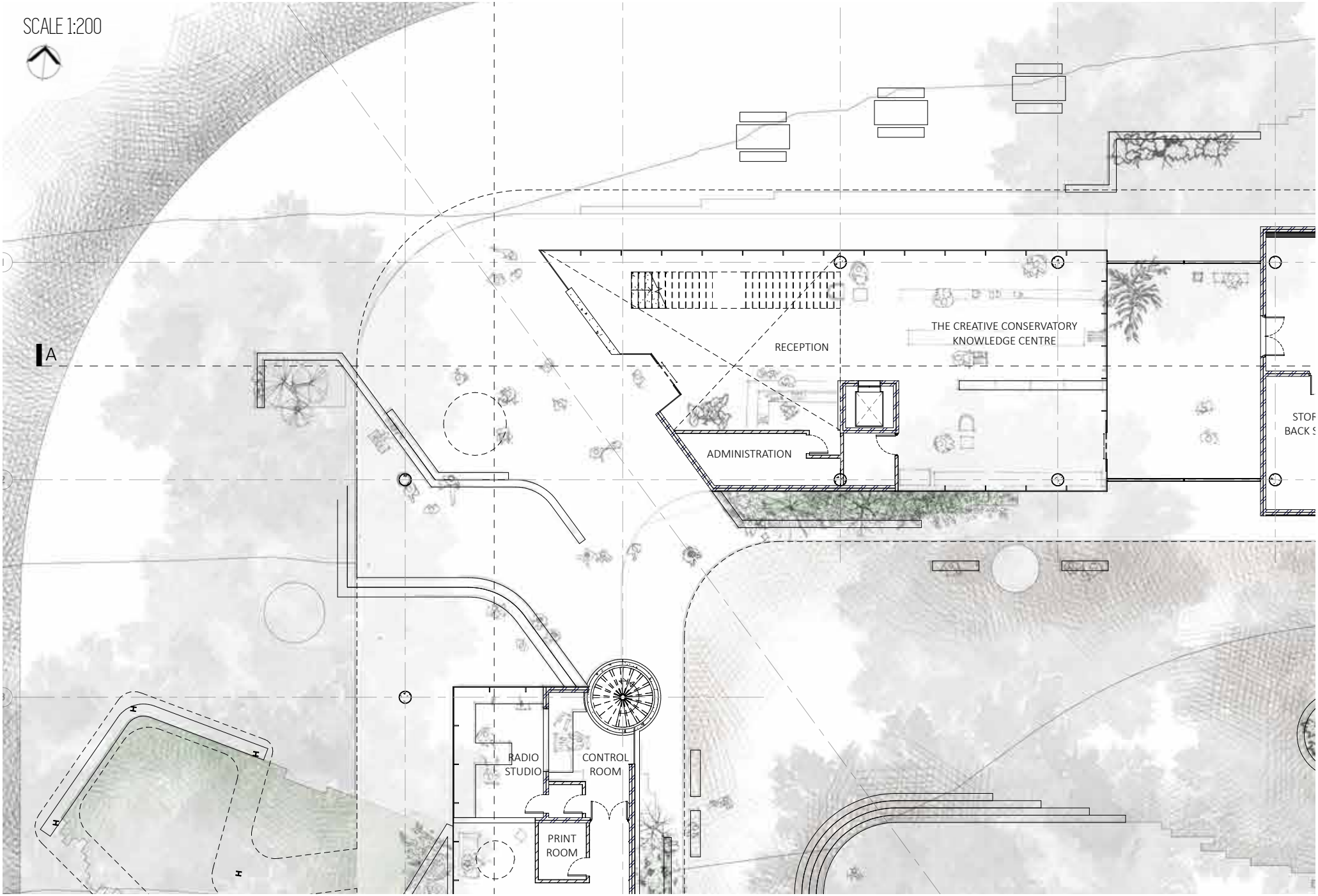
Figure 8.12

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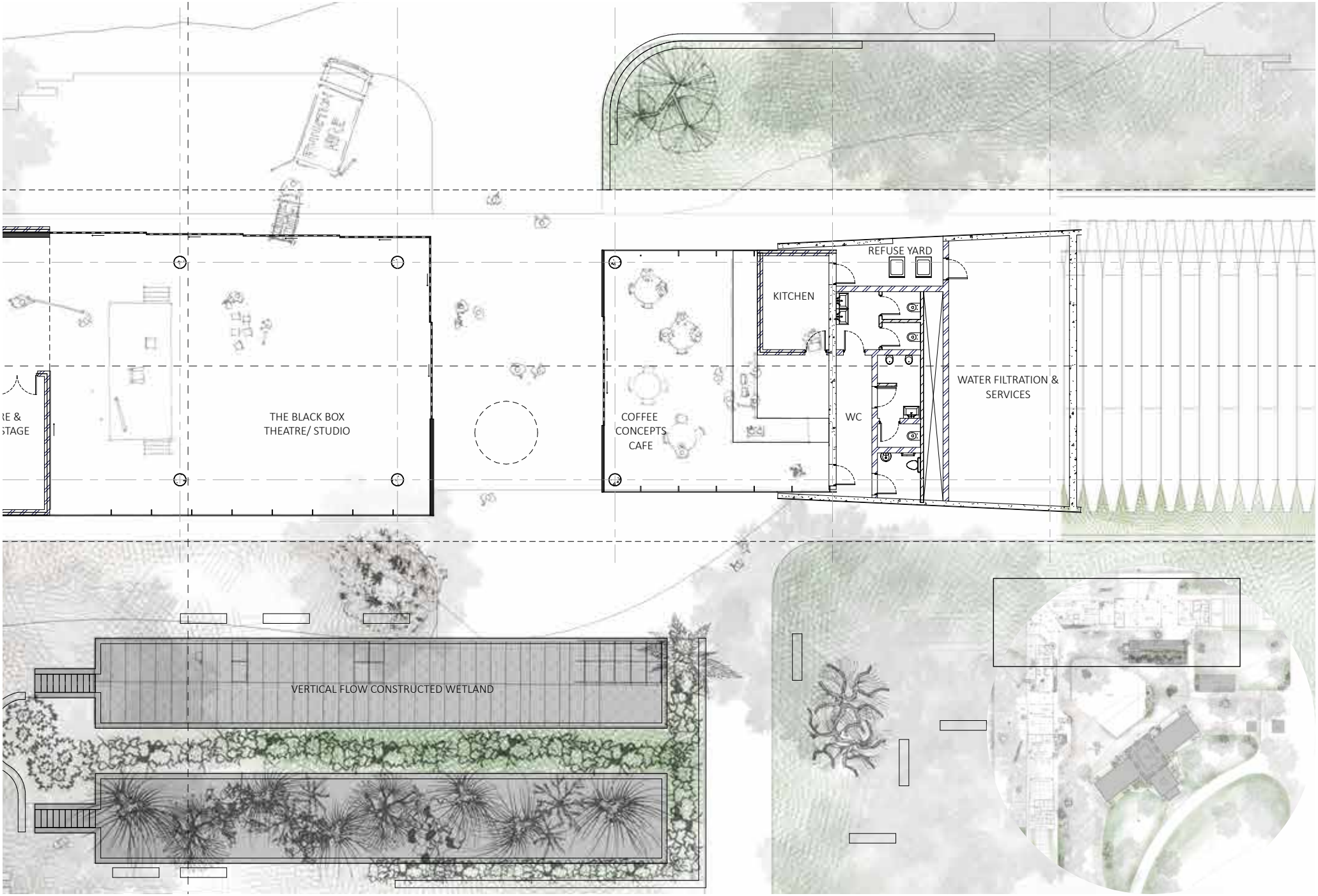


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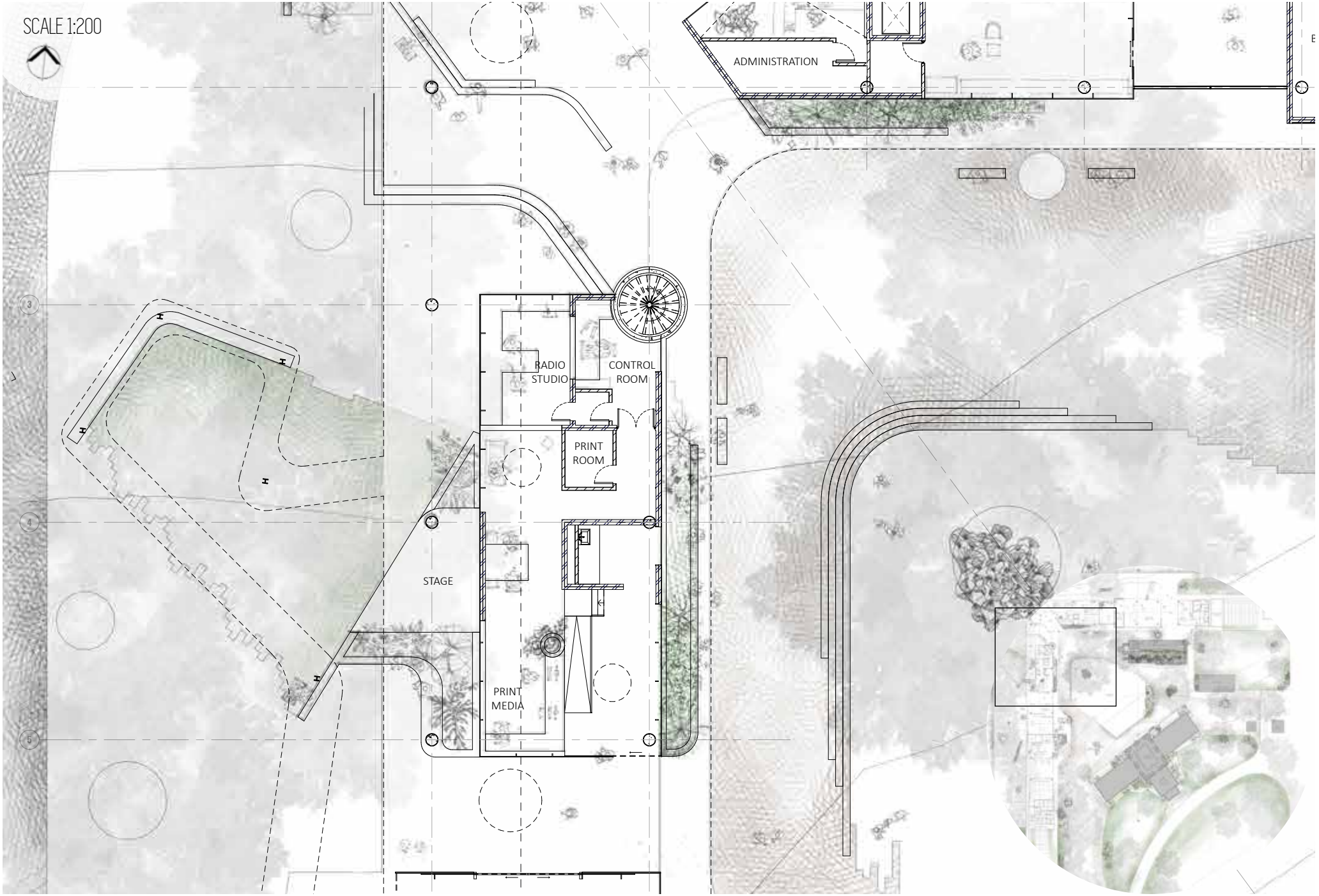
SCALE 1:200



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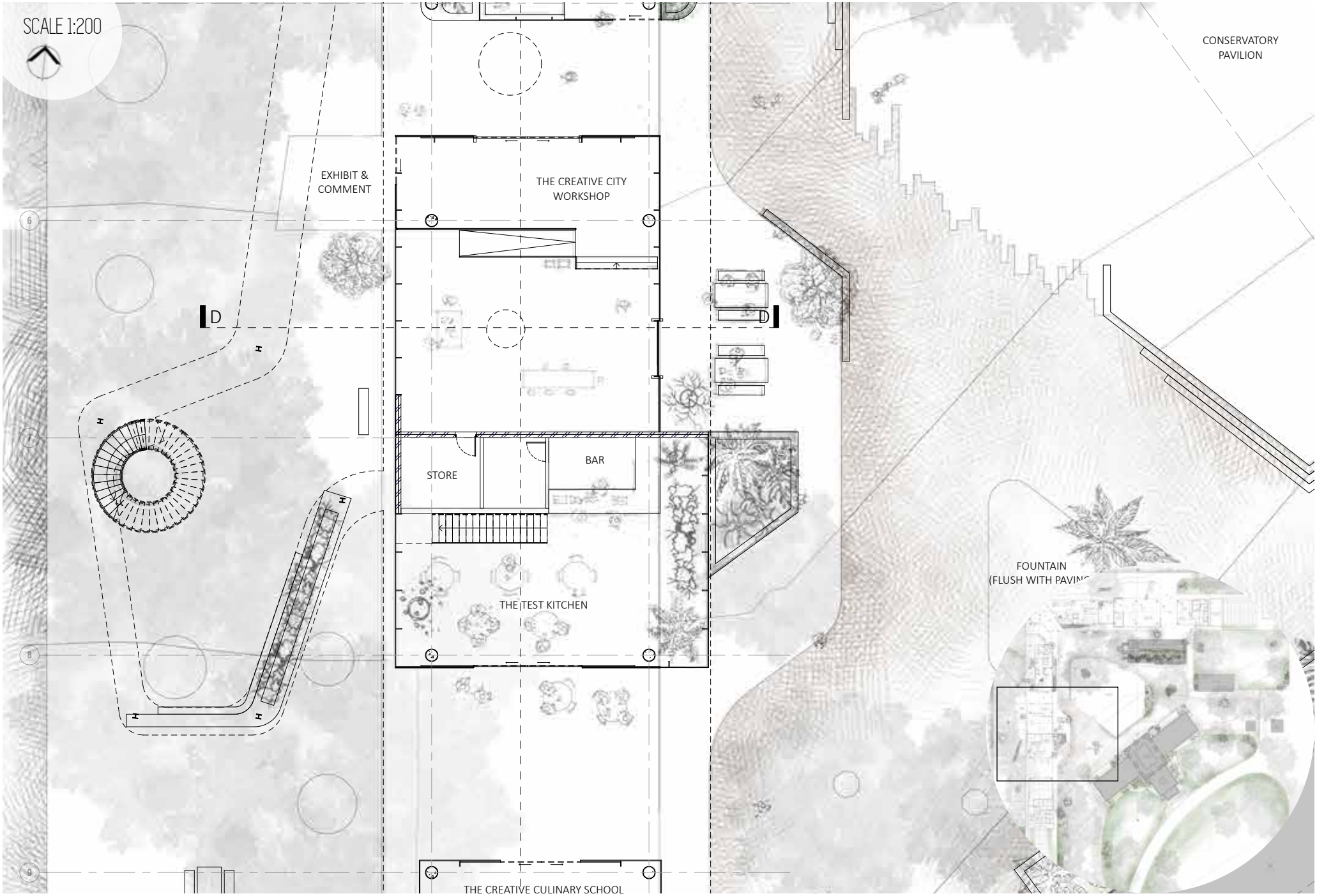
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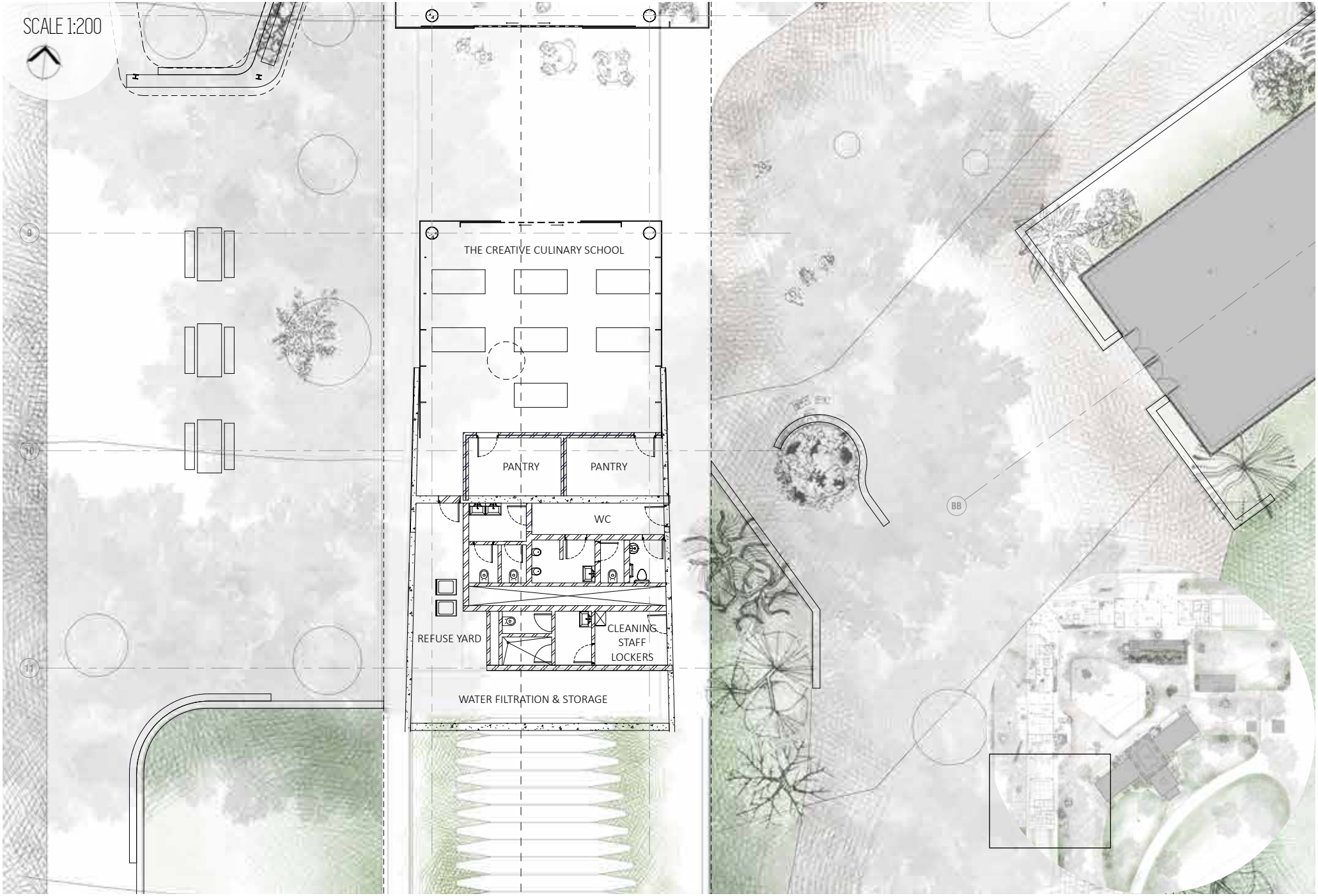
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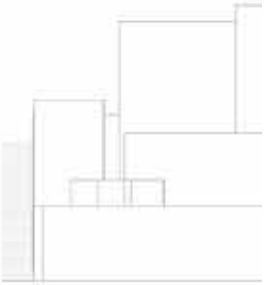


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8.5_ SECTIONS

8.5.1_ SECTION A-A
NORTH LONGITUDINAL SECTION

Figure 8.13





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8.5.2_ SECTION B-B
WEST LONGITUDINAL SECTION

Figure 8.14

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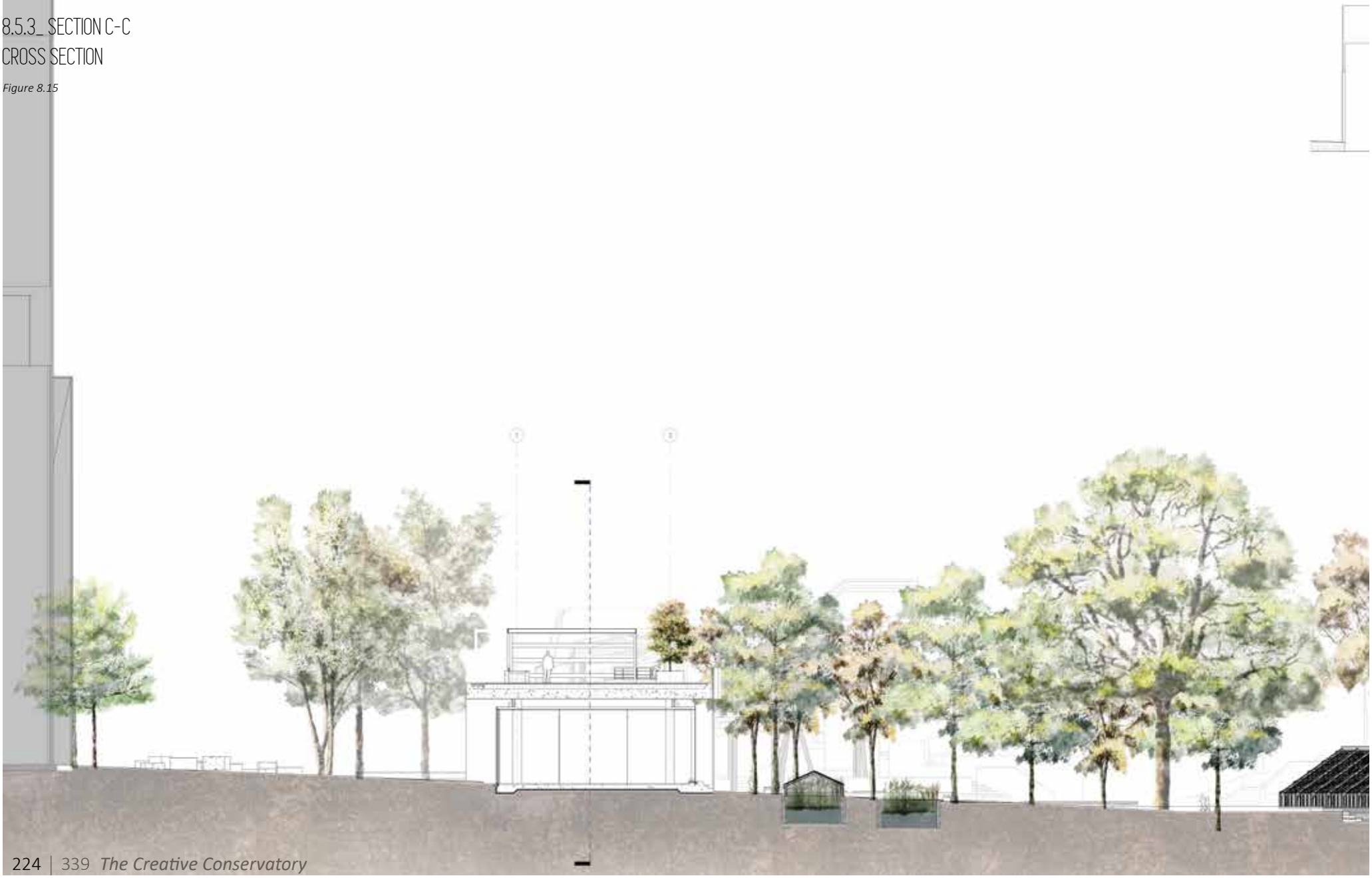




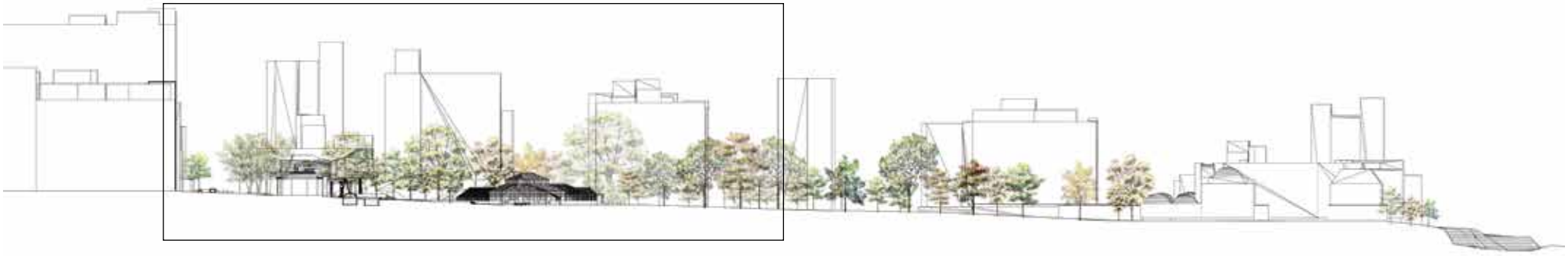
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8.5.3_ SECTION C-C
CROSS SECTION

Figure 8.15



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8.6_ELEVATION

8.6.1_ NORTH ELEVATION

Figure 8.16



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8.6.2_ SOUTH ELEVATION

Figure 8.17



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8.7_SPATIAL EXPLORATION

8.7.1_PERSPECTIVE KEY

Figure 8.18



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8.7.2_ WOLMARANS STREET

Figure 8.19

A



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8.7.3_ MAIN ENTRANCE

Figure 8.20

B



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8.7.4_CC KNOWLEDGE CENTRE

Figure 8.21



C

8.7.5_ THE BLACK BOX

Figure 8.22
The Black Box as a Theatre Space



D

Figure 8.23
The Black Box as a Dance Studio



D

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8.7.6_ THE CONSERVATORY

As the heart of the Conservatory Complex and the primary exhibition space of the CC, the Conservatory is an adaptable place of expression of and engagement with artistic practice. The heritage Conservatory is activated as a valuable public asset and an iconic place of Joubert Park.

E



Figure 8.24
A Luncheon Event

E



Figure 8.25
A Gathering Space

F



Figure 8.26
An Art Exhibition

F



Figure 8.27
A Runway Space

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8.8_SYNOPSIS

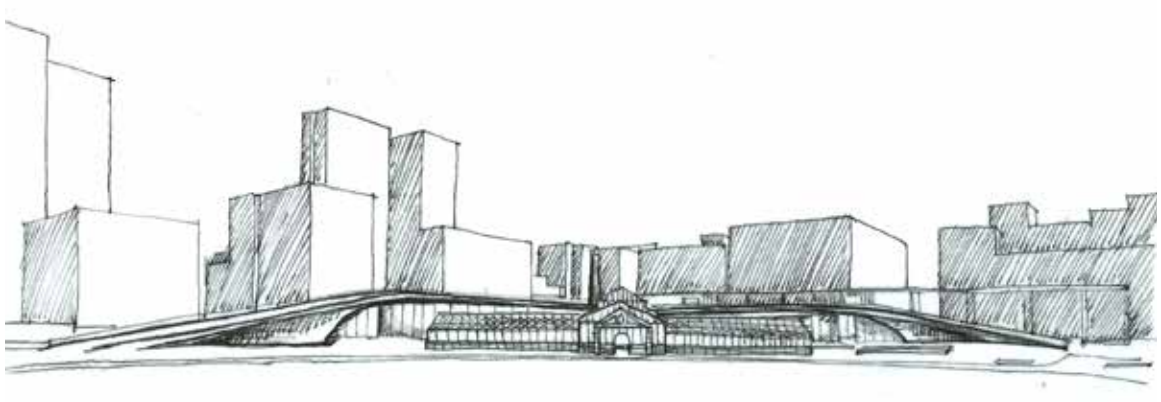


Figure 8.29

The final design of the Creative Conservatory is the product of extensive explorations and iterations, and responds to the research questions posed in chapter 1. The building provides opportunities for diverse arts and culture activities, activates the street edge, energises the Park, engages with pedestrians, and keeps eyes on the street. The CC is a community orientated building in the public realm and enriches the creative milieu of Joubert Park.

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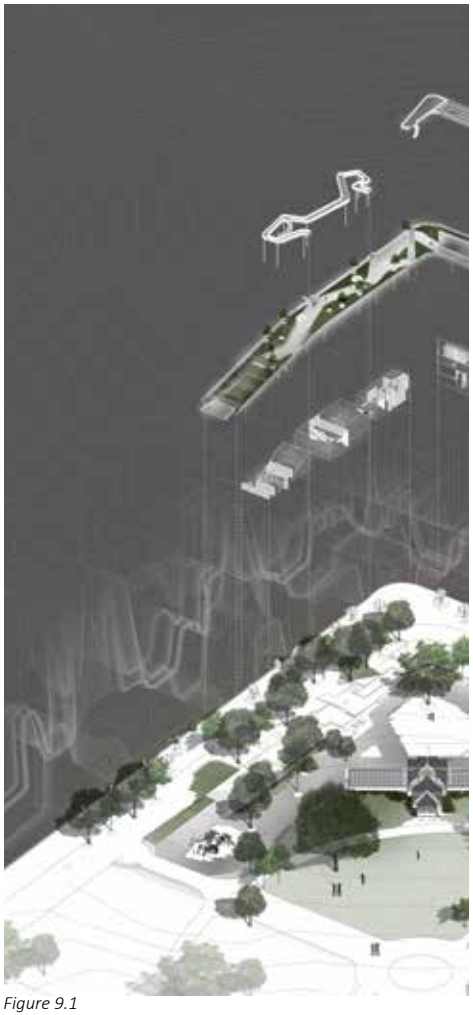


Figure 9.1
(Author, 2016)

CHAPTER 09

TECHNOLOGICAL INVESTIGATION

The dynamic between the heritage landscape and the contemporary contextual needs of Joubert Park and the Conservatory Complex have been explored on various levels: in a macro and micro analysis, theoretical considerations, programmatic proposals, and the subsequent design development to reach a final architectural solution. This chapter explores the assembly and construction resolution of the building on a conceptual and detailed level. The contextual approach taken throughout the dissertation and design informs the material selection, inspired by the existing heritage fabric.

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9.1_ TECTONIC CONCEPT

9.1.1_INTRODUCTION_STEREOTOMIC & TECTONIC

Gottfried Semper (1851) explains the origins of architecture through the lens of anthropology in 'The Four Elements of Architecture' whereby architecture is divided into four categories: the hearth (stereotomic), the roof (tectonic), the enclosure (tectonic) and the mound (stereotomic) (Figure 9.2). Stereotomic construction uses compressive mass like stone work while tectonic employs lighter framework elements. Stereotomic is associated with permanence, and tectonic with transience (Wunder, 1998).









Figure 9.2
(Owen, 2012)

HEARTH
The fireplace, the heart of the structure, protected by the roof, enclosure, and mound

ROOF
The protective overhead shelter

ENCLOSURE
Walls, spatial dividers and screens of light fabric or weaving, with their materiality changing only if required to serve structural purpose

MOUND
The solid foundation on which the structure is built

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9.1.2_TECTONIC CONCEPT

The century old Conservatory structure on the site drives design and technical conceptualisation. It is a lightweight timber, glass, and steel structure supported on a masonry base with an earthen floor, and the hearth is the stereotomic pond in its centre, reflecting the roof above. Therefore, the Conservatory has a tectonic roof and enclosure with a stereotomic mound and hearth. The programme of the CC as a conservatory of the arts opposed to a greenhouse conservatory turns the typology around and the technological approach mimics this. The tectonic concept turns this structure upside down, having a stereotomic roof rising from the earth, seemingly supported by a tectonic base (Figure 9.3). The hearth of the Creative Conservatory is a central courtyard that is framed by the CC building and the heritage Conservatory, becoming the heart of the Complex, connecting the old with the new. This tectonic concept is explored in junctions, materiality, and sustainability.

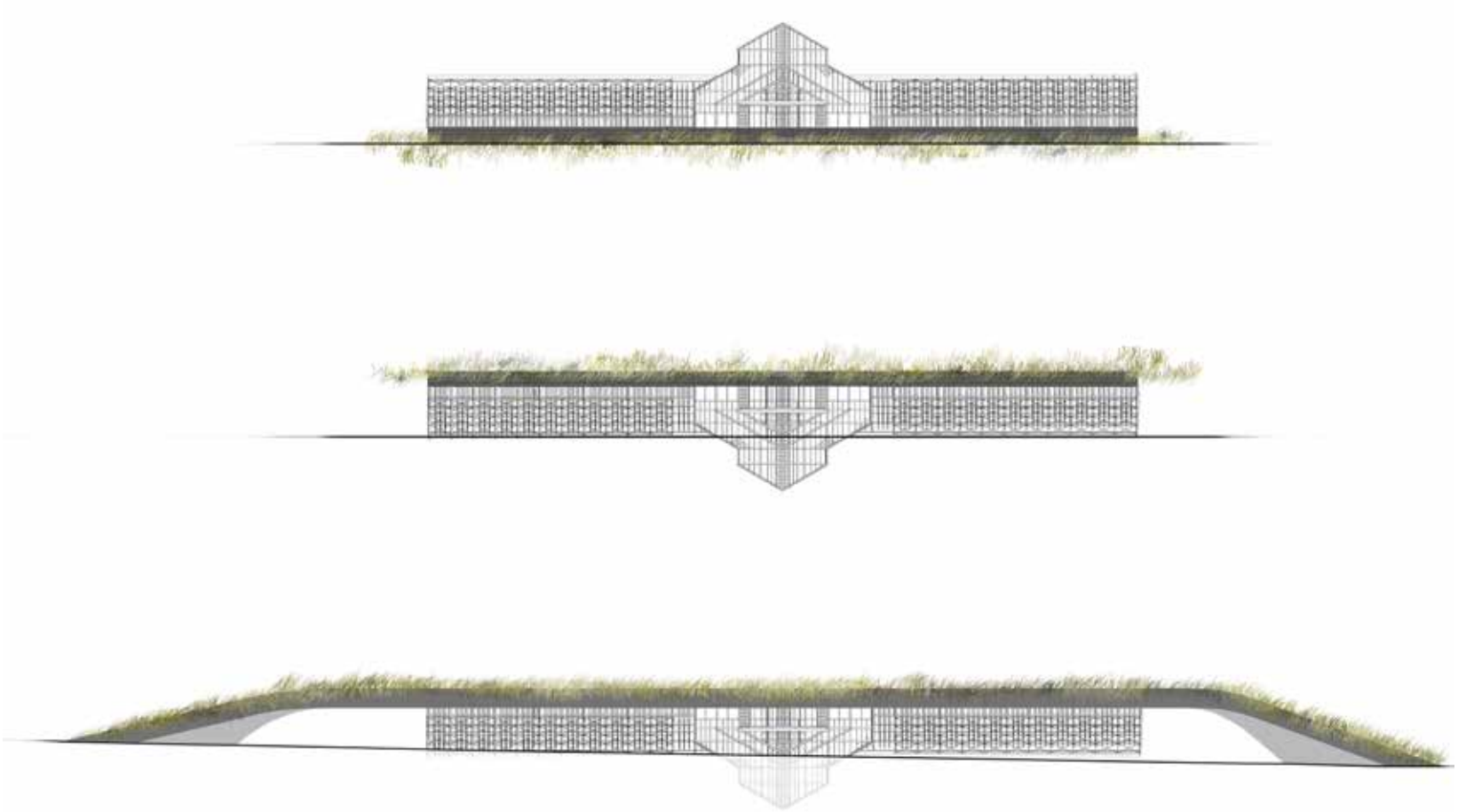


Figure 9.3
Tectonic Concept (Author, 2016)

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9.1.3_PRECEDENT EXPLORATIONS OF STEREOTOMIC & TECTONIC

9.1.3.1_The Stereotomic

Landesgartenschau / Landscape Formation One
Weil am Rhein, Germany
Zaha Hadid
1996-1999
Structure: Concrete

DESCRIPTION
Landesgartenschau was built for a garden festival and rejects the concept of a building as an isolated object as it emerges from the paths of the park and dissolves back into the landscape. The building houses an exhibition hall, café and environmental centre (Zaha Hadid Architects, 2016). Landesgartenschau has a stereotomic, heavy nature as it draws inspiration from the landscape. The sculptural concrete structure fulfils the stereotomic concept of rising from the ground, rather than sitting on top of it in space (Figures 9.4 & 9.6).

RELEVANCE
Landesgartenschau is a relevant precedent, as the Creative Conservatory's concept also explores the building roof as an extension of the landscape (Figure 9.10). The stereotomic nature of Landesgartenschau dominates the architectural language and forms an accessible path on a secondary ground plane. The CC takes this further, as the planted landscape of the Park transitions onto the sloping roof, becoming an extension of the Park.



Figure 9.4
(Binet, nd)



Figure 9.5
(Hadid, 1996)



Figure 9.6
(Binet, nd)



Figure 9.7
Elevation (Hadid, 1996)



Figure 9.8
Roof Plan (Hadid, 1996)



Figure 9.9
Cross Section (Hadid, 1996)



Figure 9.10
Longitudinal Section (Hadid, 1996)

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9.1.3.2_The Tectonic

Kanagawa Institute of Technology (KAIT)
Kanagawa, Tokyo, Japan
Junya Ishigami + Associates
2008
Structure: Steel frame

DESCRIPTION
KAIT is a single storey, open plan workshop providing a flexible space for students to work on self-initiated projects, while also accessible for public use (ArchEyes, 2016). The structure consists of 305 scattered columns of varying shapes and sizes echoing the irregular position of trees in a forest (Figures 9.13 & 9.14). These columns ambiguously divide the space, blurring programmatic boundaries within the building. The transparent façade reflects surrounding Cherry Blossom trees, further blurring the interface between inside and outside (Figure 9.11).

RELEVANCE
KAIT successfully creates a space that is visibly accessible to the public and allows for flexible use. The building's glass skin and thin columns give the structure a tectonic character and the reflections of the trees connect the building to nature. KAIT is a relevant precedent as its simple glass box reflects its context and stimulates the curiosity of passers-by (Figure 9.12). The CC will mobilise the same concept with tectonic glass boxes inviting public interest and participation, as certain panels can be opened up to engage directly with the people on the street and within Joubert Park.



Figure 9.11
(Junya Ishigami + associates, 2008)



Figure 9.12
(Junya Ishigami + associates, 2008)

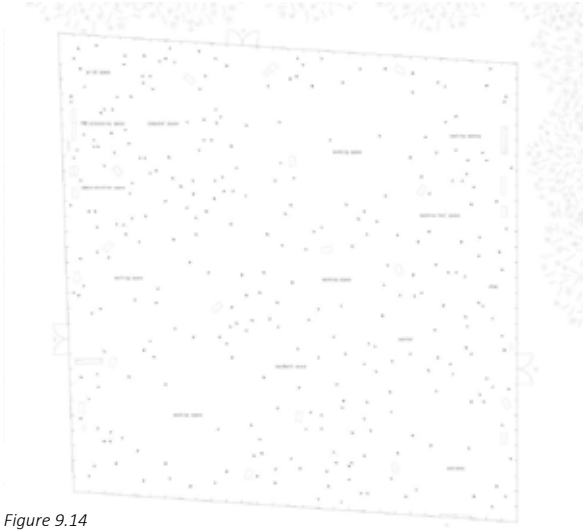


Figure 9.14
Plan (Junya Ishigami + associates, 2008)



Figure 9.15
Section (Junya Ishigami + associates, 2008)



Figure 9.13
(Junya Ishigami + associates, 2008)

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9.1.3.3_The Combination

Hearst Tower
New York City, New York, USA
Foster + Partners
2000-2006

DESCRIPTION
Hearst Tower is a 44 storey skyscraper rising above a 1920s heritage building (Figure 9.19). Foster established a creative dialogue between the stereotomic existing base and the tectonic new tower. The tower has a steel 'diagrid' frame, which efficiently uses 20% less steel than conventional framing, contributing to the Tower's sustainability (Foster + Partners, 2016). The faceted silhouette of Hearst Tower has become a landmark on the Manhattan skyline.

RELEVANCE
Hearst Tower is an example of an architectural language combining tectonic and stereotomic elements, which contrast one another to create a powerful whole (Figures 9.17 & 9.18). The Tower also uses a heritage building as inspiration for the footprint and massing of the new structure (Figure 9.16). Hearst Tower is relevant to this dissertation, which also aims to use both tectonic and stereotomic building forms and draw inspiration from the heritage Conservatory. The construction concept of the CC also considers the potential of contrasting the stereotomic and tectonic languages of architecture to generate beauty in contradiction.

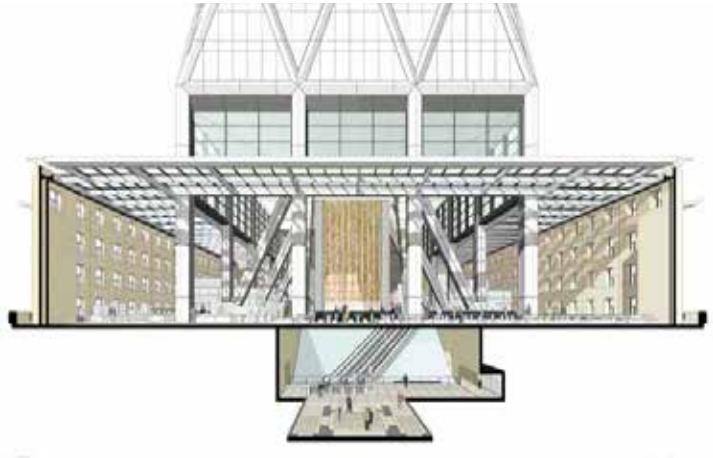


Figure 9.16
Sectional Perspective (Foster + Partners, 2006)



Figure 9.17
(Foster + Partners, 2006)



Figure 9.18
(Foster + Partners, 2006)



Figure 9.19
(Foster + Partners, 2006)

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9.2_STRUCTURE

9.2.1_STRUCTURAL CONCEPT

The structural concept is a planted roof supported by a thick concrete slab and columns on a regular grid, with a tectonic glass skin enclosing various spaces with gaps between the boxes facilitating free pedestrian movement into the courtyard (Figure 9.20).

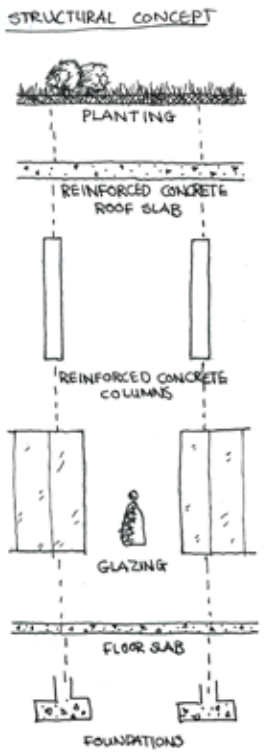


Figure 9.20
(Author, 2016)

9.2.2_STRUCTURAL INFORMANTS

The structural resolution is inspired by the different contexts, reinterpreting the materialistic characteristics of the Conservatory, Joubert Park, and the City (Figure 9.21).



Figure 9.21
(Author, 2016)

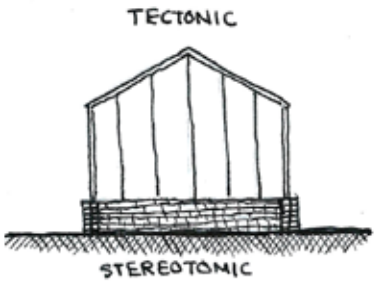


Figure 9.22
(Author, 2016)

9.2.2.1_ Conservatory

The Conservatory is the primary structural informant, with the relationship between its tectonic roof and walls, and stereotomic base and floor constituting the structural concept. The Conservatory's structure has a wood, glass and steel enclosure and roof with a masonry base and earthen floor. The CC considers the same language using different materials, with aluminium framed glass panelled walls with a concrete floor slab and roof slab, planted and supported by concrete columns.

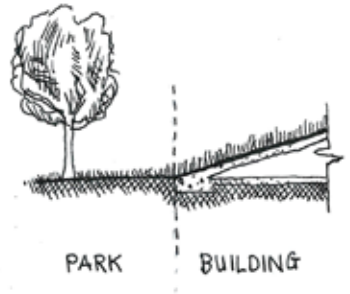


Figure 9.23
(Author, 2016)

9.2.2.2_ Park

Joubert Park's green landscape informed the decision for a green roof. The living roof will be planted with indigenous species rather than the exotics currently present in the Victorian Joubert Park, thus adding a new, local dimension to the Park's colonial landscape.

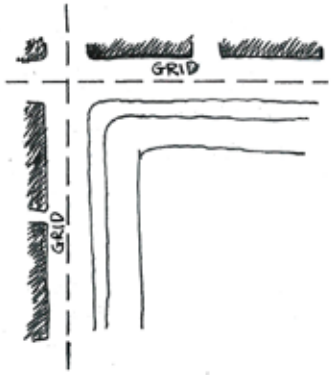


Figure 9.24
(Author, 2016)

9.2.2.3_ City

The CC's column grid, slab and roof edges are informed by the City's grid, which encloses Joubert Park in a rectangular space (Figure 9.24). In doing so, the CC respects the boundary of the heritage Park, strengthening and framing the corner and the Conservatory. The surrounding high rise buildings are very stereotomic in nature, with thick masonry and concrete walls and columns, and relatively small apertures. The street edges formed by the buildings on the northern edge of the Park are solid, unresponsive walls, failing to activate the public realm. Contrasting this, the CC aims to have visually and directly accessible facades, using different qualities of glass that contribute to the public interface.

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9.2.3_STRUCTURE & CONSTRUCTION

The primary structural system is a structural concrete roof slab, supported by concrete columns on a regular 9x9m grid that meet a floor slab and have footing foundations. The glass facade encloses space without structural significance (Figure 9.25).

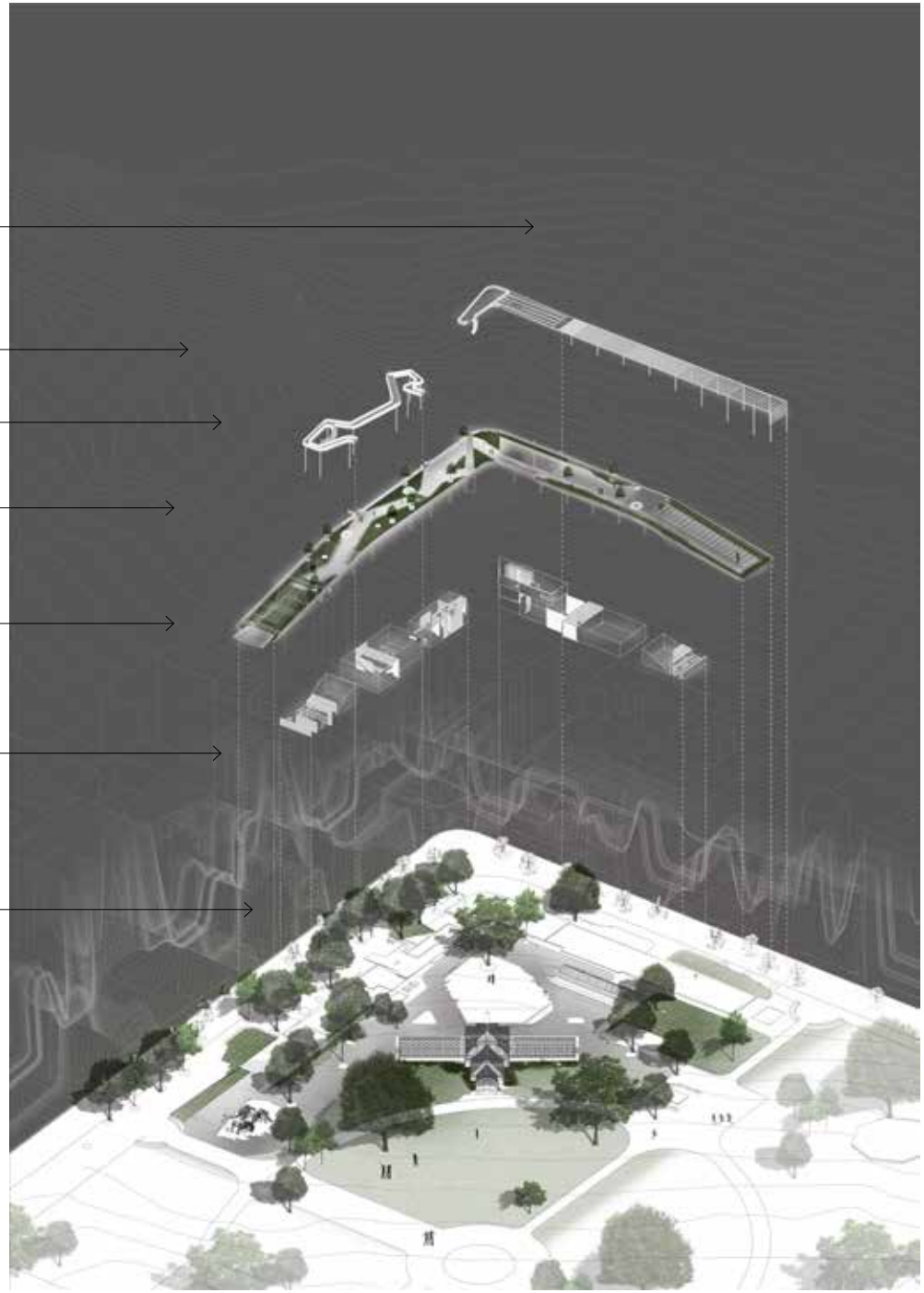


Figure 9.25
Exploded Axonometric (Author, 2016)

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9.2.4_STRUCTURAL PRECEDENT

9.2.4.1_Local

The DBSA Welcome Centre
Midrand, Gauteng
Holm Jordaan Architects
2010

DESCRIPTION
The DBSA Welcome Centre is a concrete, masonry and timber building with columns on a 5 x 5m grid (Figures 9.27 & 9.28) and a green roof planted with indigenous grasses that is inaccessible to visitors. The building is designed to be completely off the grid, using photovoltaic energy for electricity, and solar water heaters to heat the floor in winter and provide hot water. Underground pipes provide fresh air supply into the building, preheating it in the winter, and precooling in the summer (Holm Jordaan Architects, 2010). The undulating planted roof harvests rainwater and provides thermal mass. Storm water is treated and stored in a retention dam, reducing the demand for council supply.

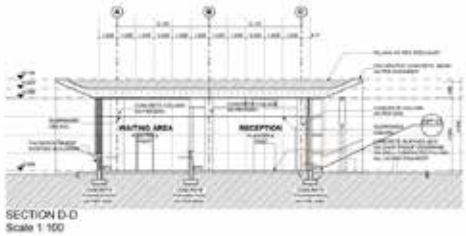
RELEVANCE
The DBSA Welcome Centre is an excellent precedent for this dissertation as it is also based in Gauteng, considers sustainable approaches, and successfully integrates a green roof planted with indigenous grass (Figure 9.26). The indigenous grasses on the roof match the grass on the site, and need to be burnt once a year to propagate. The CC's living roof is also planted with indigenous species, contrasting the exotics within the Park, but the grasses and shrubs chosen will not require burning, but rather need to be cut back to propagate.



Figure 9.26
(Holm Jordaan Architects, 2010)



Figure 9.27
(Holm Jordaan Architects, 2010)



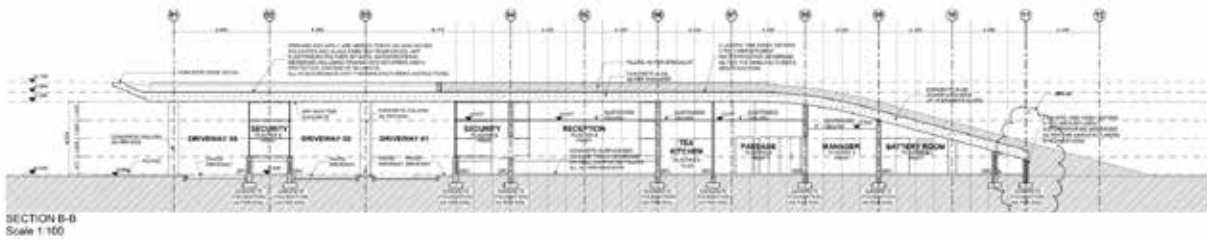


Figure 9.28
Sections (Holm Jordaan Architects, 2010)

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9.2.4.2_International

Städel Museum
Frankfurt, Germany
Schneider + Schumacher
2008- 2012

DESCRIPTION
The Städel Museum extension is placed beneath the courtyard garden, almost doubling the exhibition space from 4000m2 to 7000m2 (Gaete, 2012). The planted roof is dotted with 195 circular skylights of varying diameter (1.5m-2.5m) designed to accommodate walking (Figures 9.29 & 9.30). Daylight entering the exhibition can be augmented by integrated LED lights or mitigated by shading elements (Figure 9.31). The roof slab is supported by 12 reinforced concrete columns (Figure 9.32) and the extension is anchored by 160 piles, 36 of which are geothermic, passively maintaining thermal comfort (Gaete, 2012).

RELEVANCE
The Städel Museum extension is relevant to this dissertation as it has a walkable green roof with well-designed skylights that make the interior pleasant and bright. The extension creates space whilst keeping the existing garden pavilion and is sensitive to the heritage building on site (Figure 9.33). The project is a relevant structural precedent as the CC also makes use of walkable skylights to brighten the interior spaces as well as a regular column grid enabling the flexible use of space.



Figure 9.29
(Bonke, 2012)



Figure 9.30
(Bucher, 2012)

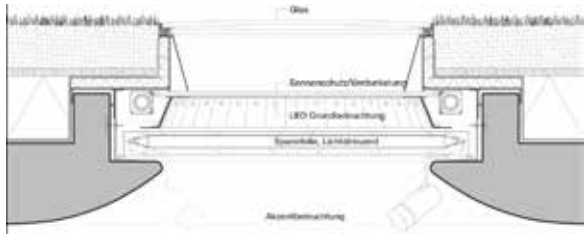
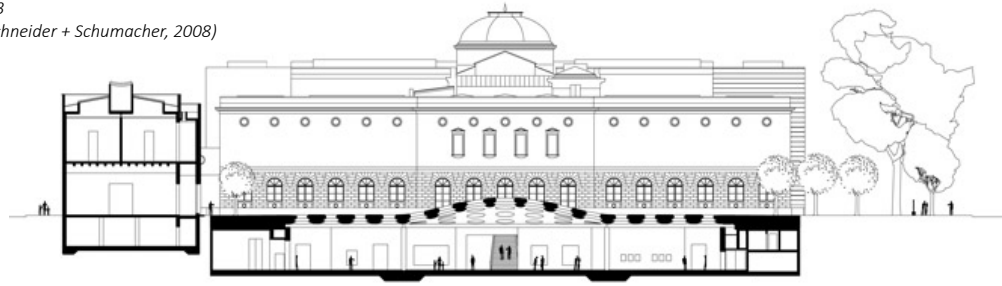


Figure 9.31
Skylight Detail (Schneider + Schumacher, 2008)



Figure 9.32
(Miguletz, 2010)

Figure 9.33
Section (Schneider + Schumacher, 2008)



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9.3_MATERIALITY

The material palette is inspired by the Conservatory also intending to articulate the contrast between stereotomic and tectonic materials. The monolithic concrete roof is the fundamental stereotomic element, with a planted roofscape. The plant palette of indigenous South African species contrasts Joubert Park's historically exotic plants and is discussed in section 9.4. The tectonic palette is glass with a light aluminium framing, galvanised steel is used for the construction of the canopy walk and pergola.

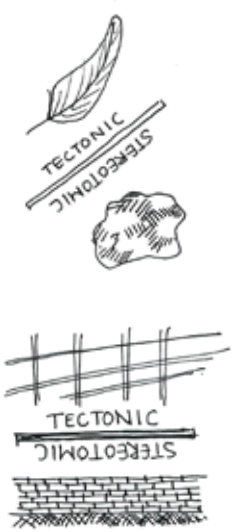


Figure 9.34
Materiality Concept (Author, 2016)

9.3.1_DEMOLISHED MATERIAL RE-USE & RECYCLING

Materials from the proposed building demolitions are recycled as far as possible and either used in the new building or taken by the local scrap material collectors. The timber doors, bricks, and steel fittings from the Greenhouse Project earth buildings are reused in the CC. The polycarbonate sheeting of the polytunnels, corrugated sheeting of the earth building, and roof tiles are collected and taken off site to be reused in other projects. The concrete demolished on site is crushed and recycled as dry aggregate for the new concrete used in the CC.



Figure 9.35
(Author, 2016)

9.3.2_MATERIAL PALETTE

The palette is informed by the contrasting relationship between stereotomic and tectonic materials and aims to use a restricted palette of simple materials.

9.3.2.1_Stereotomic

CONCRETE
(Figures 9.36 & 9.37)
The architectural language explores the sculptural quality of concrete, using it to extend the landscape over the building seamlessly. Off-shutter reinforced concrete is the primary structural material for construction of the CC. The roof is a structural slab which is designed to support the heavy load of the planted roof when it is saturated with water. The large reinforced concrete columns are arranged on a regular grid, evenly supporting the load of the roof. The floor slab is also polished concrete, taking advantage of its thermal mass abilities.

MASONRY
(Figure 9.38)
Reclaimed bricks from the demolished buildings on site are recycled and used in the landscaping, radio tower, and interior walls. The brickwork will not be plastered.



Figure 9.36
(Author, 2016)



Figure 9.37
(NAMELESS Architecture, 2014)

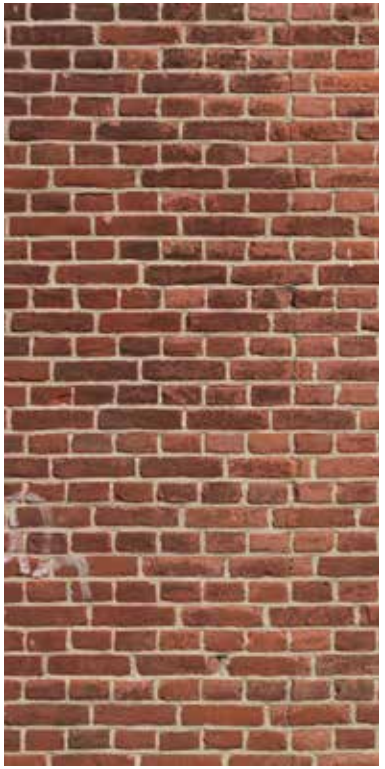


Figure 9.38
(Wallpaper, 2016)

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9.3.2.2_Tectonic

GLASS PANELS IN ALUMINIUM FRAMES

Most of the façade is aluminium framed with glass panels of varying transparency depending on the function enclosed. Glass dictates the visual access into the building and the interface between the interior and exterior conditions. Tempered glass is used, which is manufactured using controlled heat treatment giving it four times the strength of annealed glass, as the outer surfaces are in compression and the inner surfaces in tension (Scientific American, 2016). Low E and double glazed glass is employed to reduce heat transfer and maintain thermal comfort¬ within the interior. The glass is treated to control the light entering the interior spaces below. Various skylights, some of which are walkable, bring light into the interior spaces.

STEEL

The steel pergola is a tectonic element providing shading on the roof. The structure consists of galvanised hot rolled mild steel C-channels and I-beams with bolted connections, enabling disassembly and thus adaptability. The canopy walk is also a galvanised steel structure.



Figure 9.39
(Lanoo, 2016)



Figure 9.40
(Lanoo, 2016)

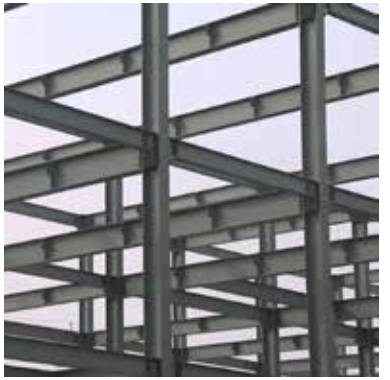


Figure 9.41
(National Prefab Systems, 2016)



Figure 9.42
(DZine Construction, 2016)

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9.4 _LANDSCAPE OVER STRUCTURE: THE LIVING ROOF

9.4.1_INTRODUCTION

9.4.1.1_Green Roofs

Green roofs, also known as living roofs or landscapes over structure, are roofs constructed to accommodate planting. The concept of a living roof is to create a pervious surface and comfortable, accessible open space without taking up additional land. Living green roofs have ecological, aesthetic, and economic benefits. Green roofs are used as storm water retention systems, reduce heat gain, and stimulate biodiversity (Weiler & Scholz-Barth, 2009).

9.4.1.2_Extensive & Intensive Green Roofs

Green roofs can be described as either 'extensive' or 'intensive' depending on the depth of the growing medium and maintenance requirements (Weiler & Scholz-Barth, 2009). Extensive green roofs have a shallow growing medium, commonly for sedums, and are usually used for storm water management and insulation rather than as a garden or accessible open space. Intensive green roofs, on the other hand, have greater soil depth and thus larger diversity in size and vegetation type. These roofs are often accessible garden spaces and require a more intensive level of maintenance (Weiler & Scholz-Barth, 2009).

An intensive roof has been selected for the Creative Conservatory, becoming an extension of Joubert Park as landscape over structure. The soil depth of over 300mm will accommodate various plants and allow for human activity. An intensive roof requires more maintenance and detailed construction design to suit the unique building and site conditions.

EXTENSIVE



Figure 9.43
(Miller, 2016)

INTENSIVE



Figure 9.44
(AOSHI16, 2012)

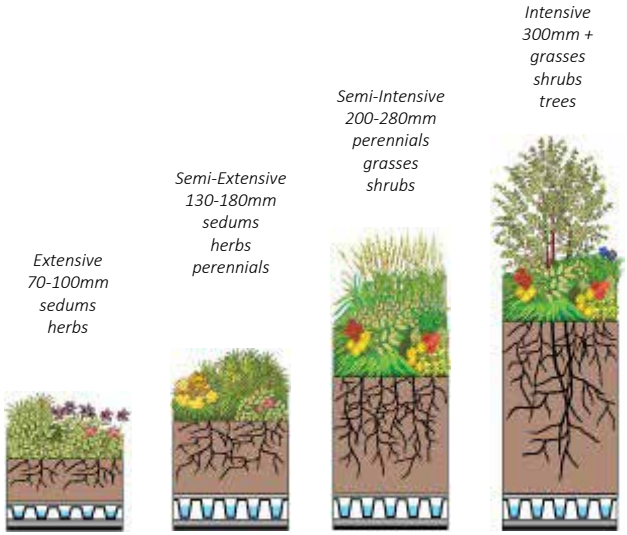


Figure 9.45
(Conservation Technology, 2008)

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9.4.2_ PLANTING PALETTE

The landscape design for the living roof and CC Complex Park uses species native to the Gauteng region. This is in contrast with the exotic landscape of Victorian Joubert Park. The indigenous landscape will support biodiversity, attracting birds and insects. A landscape architect would need to be consulted for detailed development of the landscape, but certain plants have been identified by the author as aesthetically suitable.

The following species and information was sourced from the 'Wild Flower Nursery: Suppliers of indigenous plants to Landscape Architects and Developers (2016).'

9.4.2.1_Grasses

All grasses are native to Gauteng, very hardy, require sun, grow in loam soil, are approximately 50cm tall, and are water wise, unless otherwise stated.

Figure 9.46
(Wildflower Nursery, 2016)



Hairy Trident Grass (Tristachya leucothrix) is a perennial, tufted grass which flowers in summer. Its basal leaf sheaths are ornamentally covered by golden hairs.



Spear Grass (Heteropogon contortus) is a variable specie (in characteristics and height) flowering in early summer.



Wether Love Grass (Eragrostis nindensis) is drought resistant with a beautiful inflorescence flowering in summer.



Natal Buffalo Grass (Panicum natalense) has attractive blue-green leaves and flowers in early summer. Its relatively small size makes it an ideal choice for a grassland garden.



Natal Red Top (Melinis repens) is a hardy, perennial grass that flourishes in sun or semi-shade. Its beautiful pink plumes and white fluffy seeds attract seed eating birds. The grass flowers in spring and needs to be pruned down to 5cm above ground level every winter.



False Love Grass (Bewsia biflora) is a tufted grass with pink culms and flowers, and purple sheaths, flowering in the early summer.



Iron Grass (Aristida diffusa) flowers in summer and has a misty pink appearance when its inflorescences are open.



Red Dropseed (Sporobolus festivus) is a grass with a loose, pink inflorescence. The grass flowers in summer and must be cut back in autumn.



Narrow Heart Love Grass (Eragrostis racemosa) is a 300mm tall, densely tufted perennial grass that is a common groundcover of the Highveld landscape. The grass is adorned with attractive golden seeds year round and flowers in spring.

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9.4.2.2_Shrubs

All shrubs are native to Gauteng, very hardy, require sun, grow in loam soil, and are water wise, unless otherwise stated.



Wild Sweet Pea (Sphenostylis angustifolia) is a 1m tall perennial shrub of the Highveld with beautiful, faintly aromatic flowers which bloom in the early spring irrespective of rainfall.



Shell Flower (Orthosiphon labiatus) is a beautiful 1m flowering shrub needing sun or semi-shade that attracts insects and bird life to the garden. The shrub flowers in autumn and must be pruned and kept neat.



Rough-leaved Raisin (Grewia flavescens) is a semi-deciduous, hardy shrub that grows to 3m and has attractive rough leaves. The shrub flowers from October to March with beautiful star-shaped blossoms, followed by yellow seeds that attract birds, making the shrub an essential part of a wildlife garden.



Bush Violet (Barleria gueinzii) is a 1-2m tall, evergreen, scrambling shrub with olive-green leaves and mauve flowers flowering in Autumn. Bush Violet enjoys sun and can be planted on embankments to control erosion and must be trimmed back in winter.

9.4.2.3_Trees



Common Wild Pear (Dombeya rotundifolia) is a hardy, drought and fire resistant tree that grows quickly to reach 5m tall. Its beautiful, scented white flowers bloom in July and September before leaves appear. The Common Wild Pear is ideal for small garens and attracts birds, insects, and butterflies.



Lavender Tree (Heteropyxis natalensis) is a hardy, slender tree with glossy, waxy leaves that smell of lavender when crushed. In spring, yellow, scented flowers grow in clusters, attracting butterflies and other insects. The Tree's bark matures to a beautifully patched, creamy colour.

9.4.2.4_Climbers



Starry Wild Jasmine (Jasminum multipartitum) is an evergreen, hardy creeper that grows fast up to 5m in sun or semi-shade. It has small, glossy foliage and blooms with beautiful, fragrant, star-shaped, white flowers from August to January. The creeper bears edible berries that attract birds and can also be used for herbal teas.

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An extensive study of intensive green roof construction and consideration of various applications and methods drove the generation of the following appropriate technical resolution.

9.4.3.1_ Drainage Considerations

The drainage of green roofs is of huge importance and impacts its capabilities and appearance. Green roofs should be able to store water to sustain its plants through dry periods, but the hardy plants that thrive on living roofs require water to be rapidly drained from their root zones. Therefore, green roof construction needs to find a balance between water storage and drainage, which can be done in several ways. Three drainage methods were considered using information from Conservation Technology (2008). The CC's living roof will make use of drainage plates and drainage mats.



A] Drainage plates
Drainage plates are waffled plastic sheets able to store water above and drain water below. They are lightweight, easily installed, and can be specified to meet the water storage requirements of almost any green roof.



B] Granular Media
Lightweight, inorganic, porous granular media is used with triangular drainage conduits. This method is heavier and requires labour intensive installation.



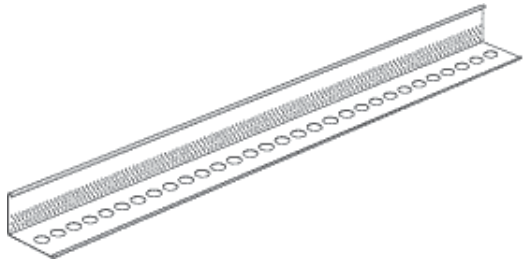
C] Drainage Mats
A drainage mat is a layered fabric fulfilling soil separation, drainage, and protection functions. Mats are fast to install and create the thinnest green roof, but have limited water storage and drainage capacity.

Figure 9.47
(Conservation Technology, 2008)

9.4.3.2_Soil Retention at Edges

Intensive green roofs have at least 300mm of soil that needs to be separated from gravel borders, paving, and retained at roof edges. The Optigreen Aluminium Edge (or similar) has small holes on the vertical leg to facilitate draining whilst retaining soil (Conservation Technology, 2008). The aluminium edges have connectors interlocking the edges with corners, and can be secured to waterproofing with cold-applied tape.

Figure 9.48
(Conservation Technology, 2008)



Connectors and corners



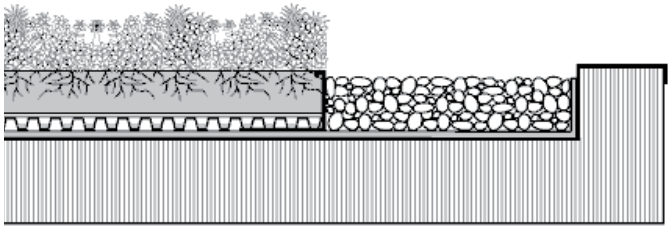
Connectors interlock edges and corners



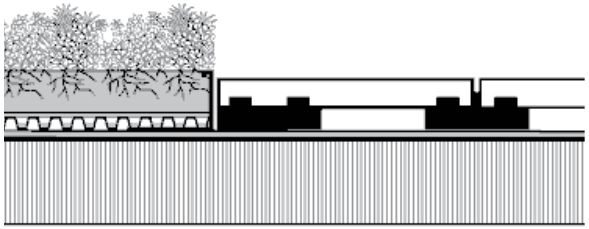
Taping an aluminium edge to an EPDM rubber membrane

© University of Pretoria

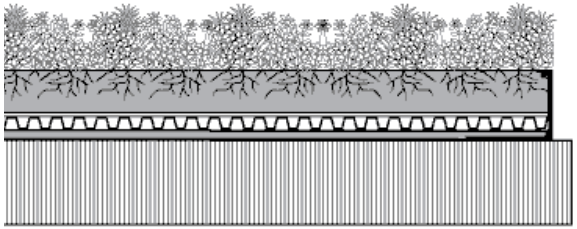
The Optigreen Aluminium Edge (or similar) provides the following functions:



- Separates soil and the gravel edge band



T- Separates soil from pavers and decks



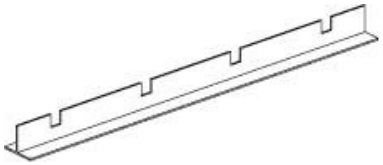
- Retains soil at the edge of a roof

Figure 9.49
(Conservation Technology, 2008)

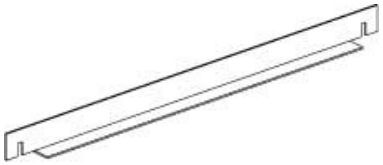
9.4.3.3_Soil Stabilisation on Slopes

Special precautions must be taken on the two sloping roofs of the CC to prevent soil from sliding down. The proposed method is Opti-green's Anti-slip Tees (or similar) which transfer the soil load down the roof to a structural parapet, or in the case of the CC, the ground. The system has two interlocking T-shaped plastic extrusions: the bottom extrusions follow the slope of the roof at 1m intervals and the top extrusion crosses the slope of the roof at 0.7m.

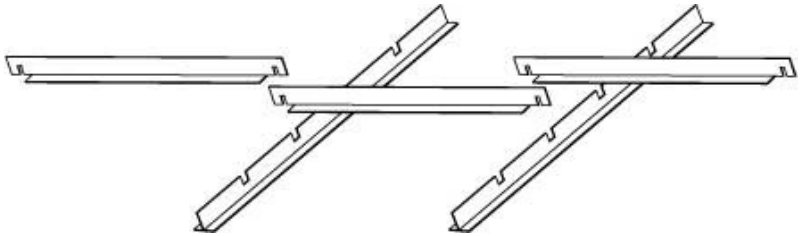
Figure 9.50
(Conservation Technology, 2008)



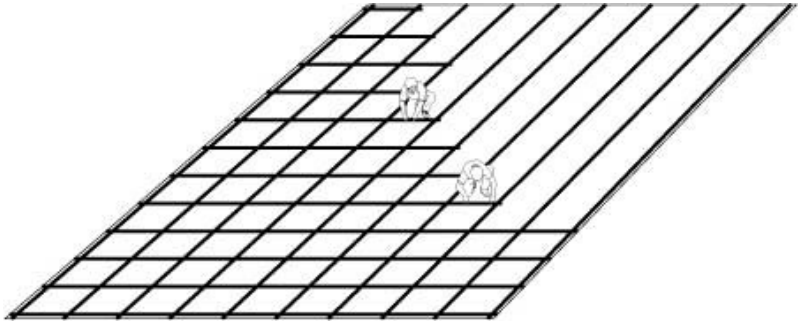
Lower tee follows slope



Upper tee crosses slope



Upper tees fit into slots in lower tees



Typical sloped roof

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9.4.4_FINAL CONSTRUCTION METHOD

The final construction method of the green roof suggests primarily Optigreen products, a world leader in the green roof industry whose products are made from completely recycled materials.

9.4.4.1_Technical Specifications

The following information is supplied from Optigreen (2016)

Weight – 680 kg/m² (Saturated Condition, dry weight is 60-70% of saturated weight)
Layer Height – 260-470 mm
Roof Pitch – 0–5°
Water Retention – 70-95 %
Discharge Coefficient – C=0.2
Water Storage – ca. 110-160 l/m²

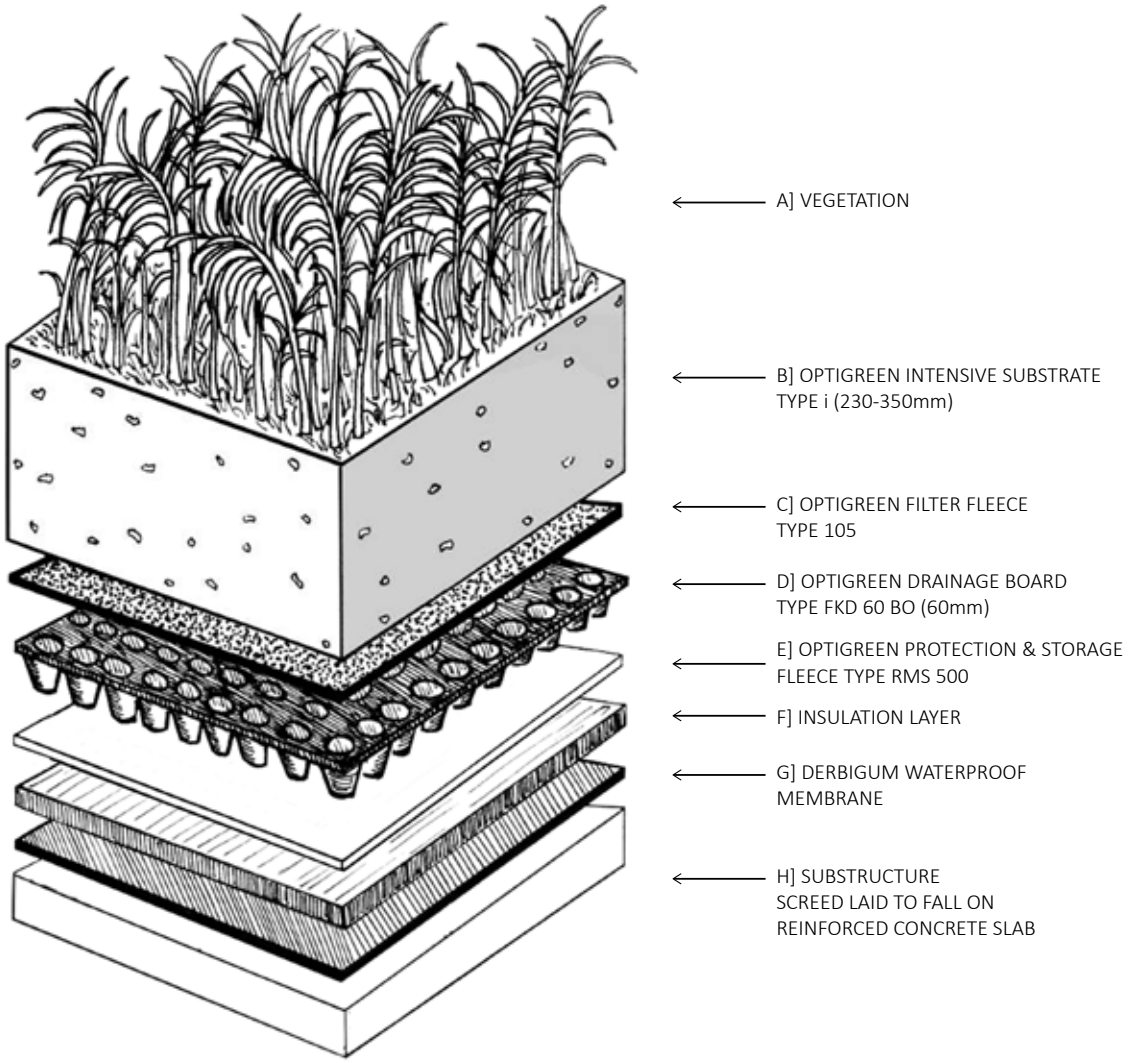


Figure 9.51
(Author, 2016, Adapted from Hilary, 2015)

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9.4.4.2_Components

The following information is supplied from Optigreen (2016)

A] INDIGENOUS VEGETATION

The green roof environment is often hot and dry, so the selected native vegetation needs to be hardy and water wise (Section 9.4.2 illustrated the vegetation palette).

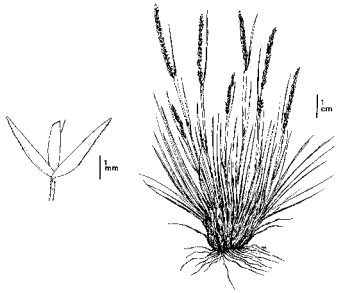


Figure 9.52
(State of California, 2016)

B] OPTIGREEN INTENSIVE SUBSTRATE, 300 mm (or similar)

Green roof soil is not ordinary soil: it must be lightweight and have a low organic content, varied particle sizes, and good water storage capacity. The Optigreen Intensive Substrate fulfils these needs and has good air porosity and water permeability.

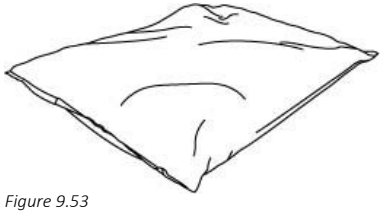


Figure 9.53
(Conservation Technology, 2008)

C] OPTIGREEN FILTER FLEECE TYPE 105 (or similar)

The filter fleece has a high water permeability but prevents soil particles from entering the drainage layer.

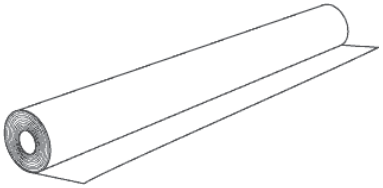


Figure 9.54
(Conservation Technology, 2008)

D] OPTIGREEN DRAINAGE BOARD TYPE FKD 60 BO (or similar)

The drainage plate's upper side stores 10.5l/m2 of water and the underside is a high volume drainage passage for surplus water. Water fills to the midpoint of the sheer, creating an air gap below the separation fabric.

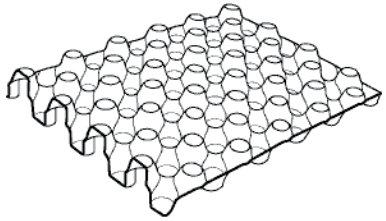


Figure 9.55
(Conservation Technology, 2008)

DRAIN BOX

A 200mm drain box is used to prevent soil from entering the drains while allowing for the free flow of water.

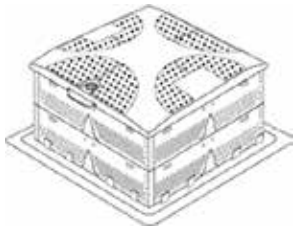


Figure 9.56
(Conservation Technology, 2008)

E] OPTIGREEN PROTECTION AND STORAGE FLEECE TYPE RMS 500

The fleece stores water and protects the roof membrane from damage.

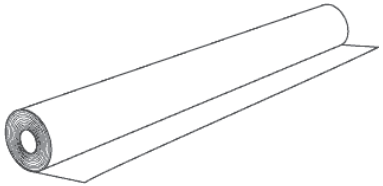


Figure 9.57
(Conservation Technology, 2008)

F] INSULATION

SANS 10400 requires insulation in Johannesburg to have an R-value of 3.7. The green roof components combined with the 600mm reinforced concrete roof slab meet this requirement, however, in certain areas of the roof where the slab is thinner, extruded polystyrene insulation will be added.



Figure 9.58
(Author, 2016)

G] WATERPROOFING

Waterproofing must withstand building movement, ponded water, and root penetration.
Specification from Derbigum (2016): One layer Derbigum CG4H (horticultural) on one layer Derbigum CG3 waterproofing membrane, laid staggered with side laps of 100mm and end laps of 150mm, sealed to bitumen primed surfaces by "torch-fusion" followed by 250 micron polyethene sheeting loose laid with 100mm laps sealed with pressure sensitive tape

H] SUBSTRUCTURE

Screed to fall on a structural concrete slab

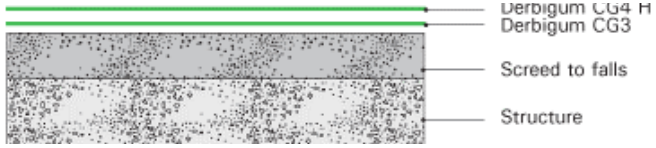


Figure 9.59
(Derbigum, 2016)

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9.5_ SUSTAINABLE DESIGN STRATEGY

Johannesburg's climate is favourable for outdoor exposure, so the building enables spaces to open up to the Park and engage with the street on a beautiful day. The Creative Conservatory makes use of passive design strategies and hybrid systems, such as geothermal heat pumps, to reach a comfortable environment in a sustainable manner. The design is optimised for passive systems first, which downsizes the need for active systems. Ambient energy sources are used such as daylighting, natural ventilation, and solar energy.

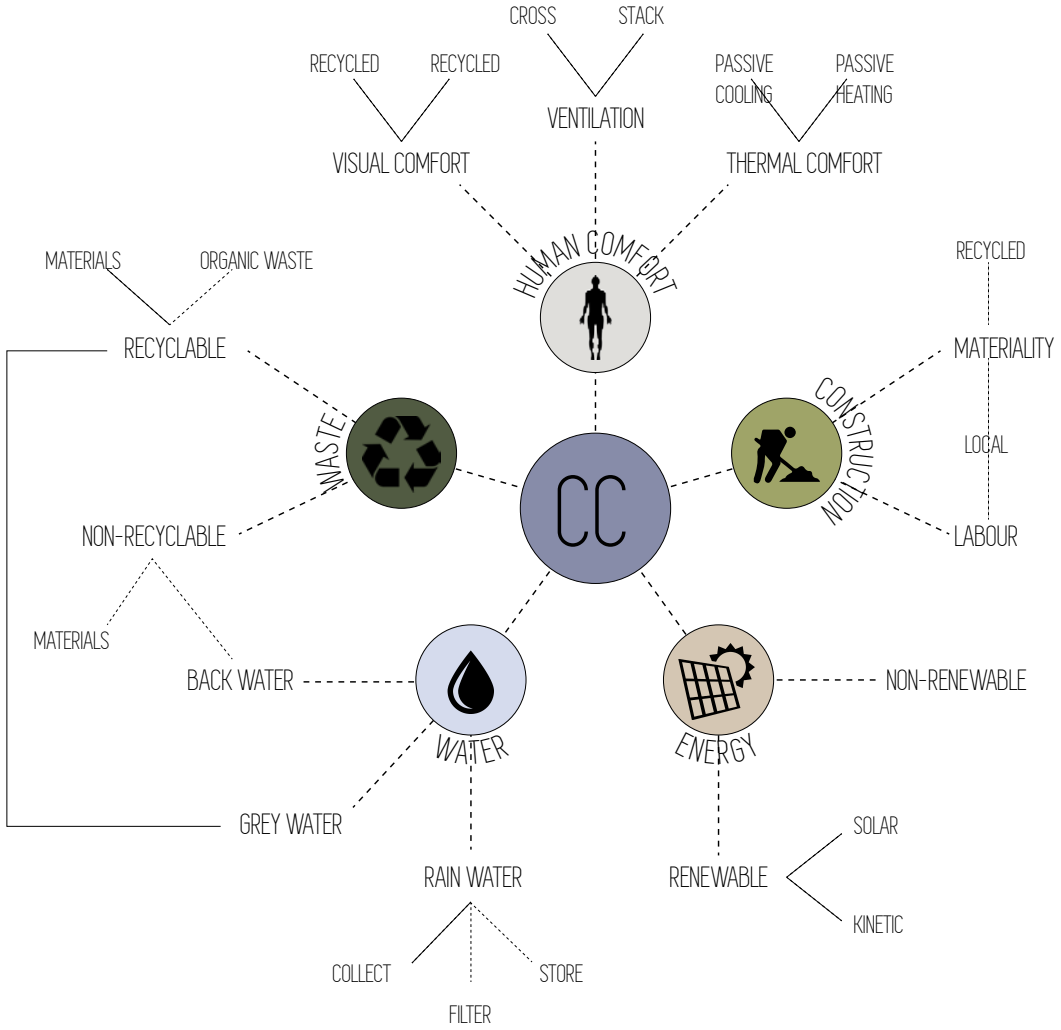


Figure 9.60
(Author, 2016)

9.5.1_ DESIGNING FOR NATURAL VENTILATION

9.5.1.1_ Johannesburg's Wind Conditions

The wind roses (Figure 9.61) illustrate Johannesburg's wind direction, strength, and frequency. As read, the annual wind rose average is split between NE winds and SW winds. On a monthly basis, from December to April, there is a primarily NE wind, from May to September, a SW wind, and October a NW and November SW. These winds are used to optimise natural ventilation within the CC building. Wind also assists with passive cooling in the warmer months where the breeze passes over water for evaporative cooling and is captured and brought through the building.

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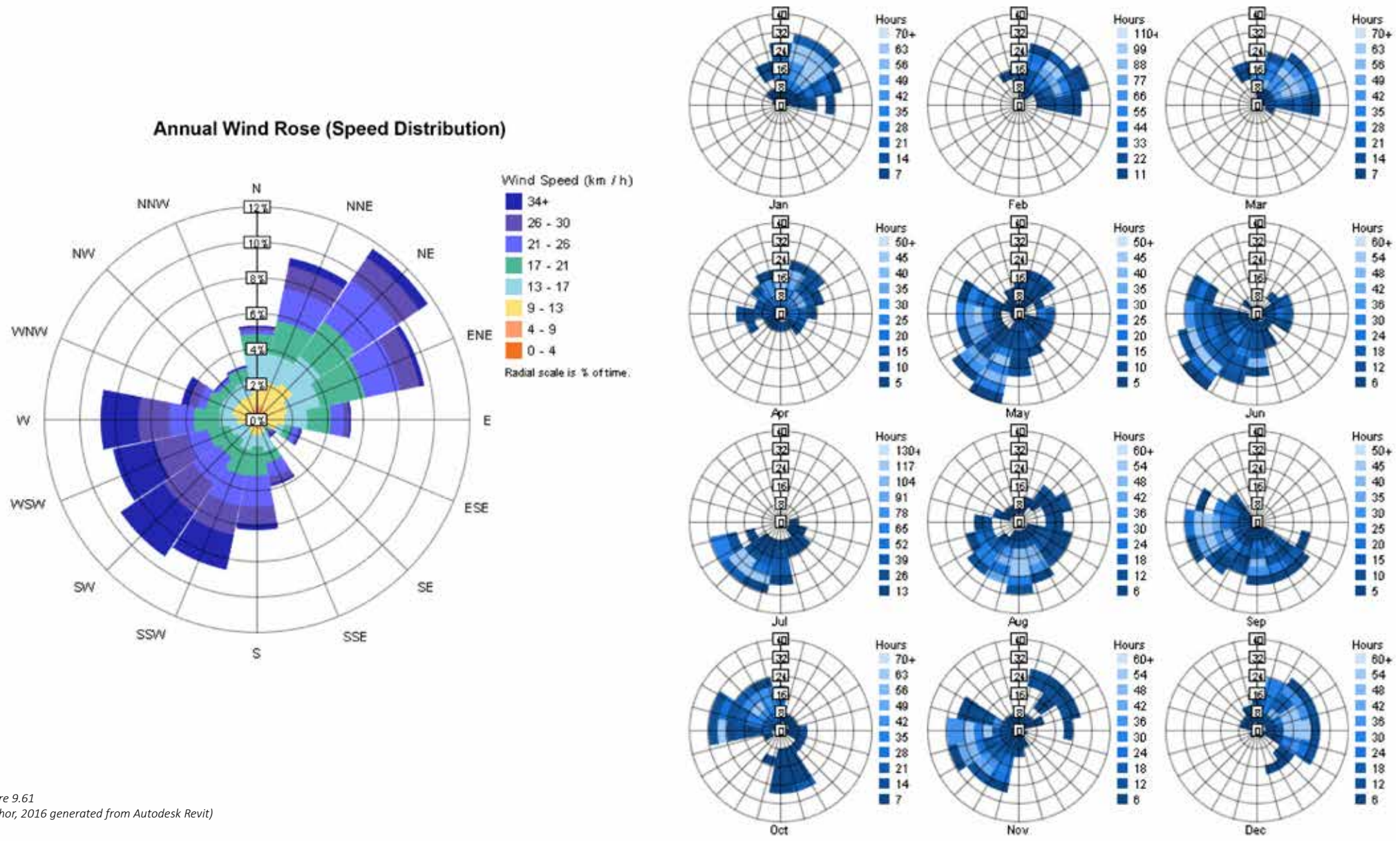


Figure 9.61
(Author, 2016 generated from Autodesk Revit)

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9.5.1.2_Cross Ventilation

The 9m wide open plan spaces of the CC are optimal for cross ventilation.

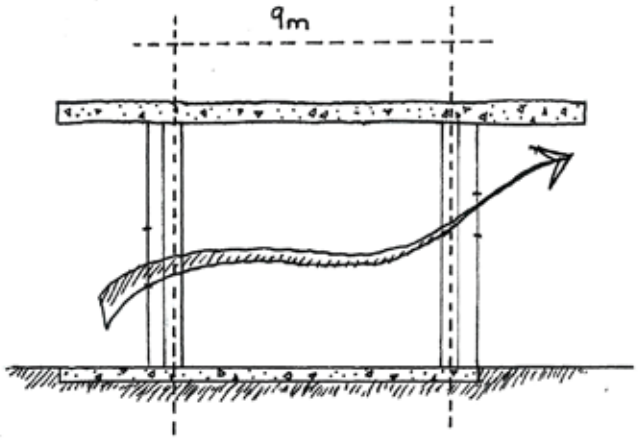


Figure 9.62
(Author, 2016)

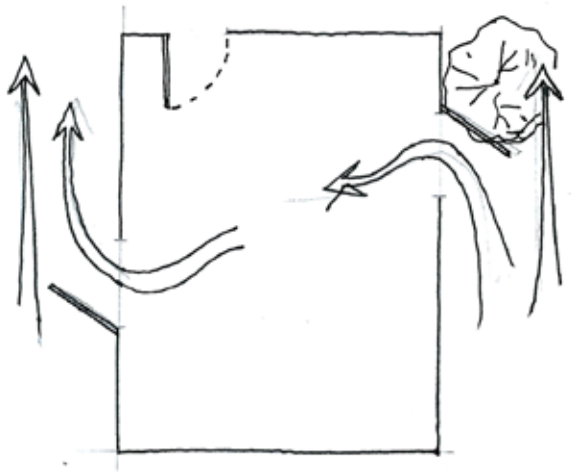


Figure 9.63
(Author, 2016)

Fresh air entering the interior is distributed and mixed by placing openings in the façades across from, but not directly opposite, each other.

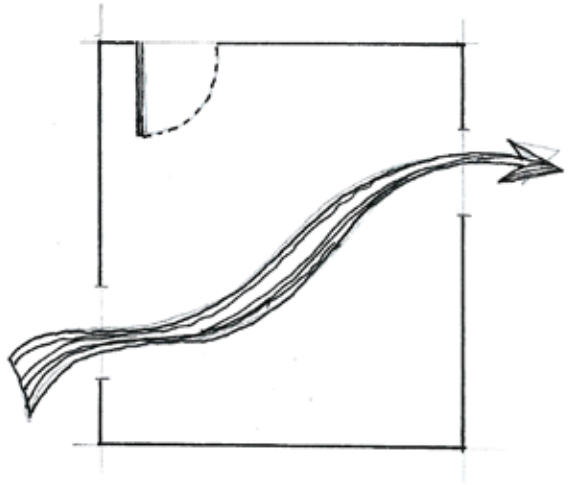


Figure 9.64
(Author, 2016)

Façades of the CC that are not well orientated for cross ventilation make us of architectural features to steer the wind into the building, such as wing walls and vegetation.

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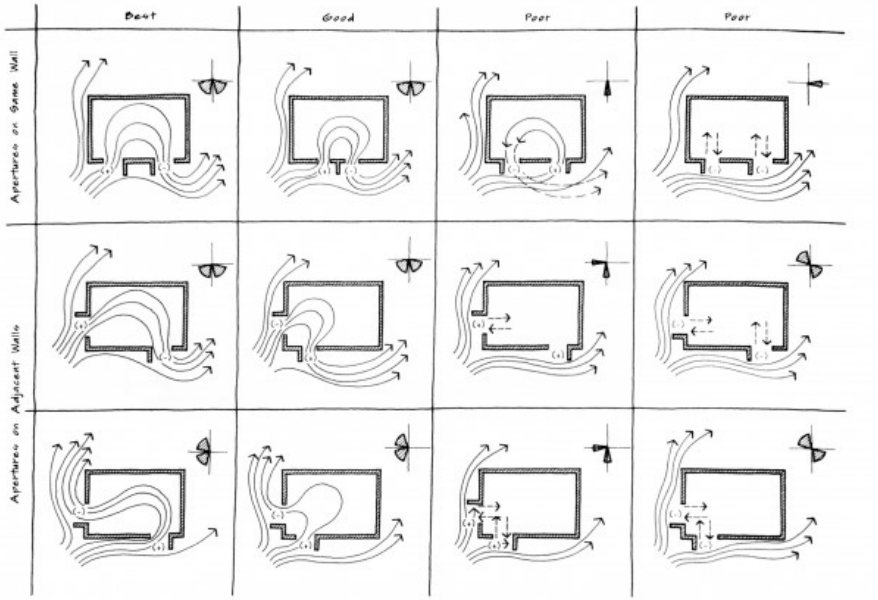


Figure 9.65
(DeKay, M. & Brown, G. Z., 2014)

Wing walls project beyond the aperture, creating high and low pressure zones with even a slight breeze, therefore air is drawn in the one window and out the adjacent opening. The diagram illustrates the effectiveness of different wing walls

9.5.1.3_Stack Ventilation

Stack ventilation uses temperature differentials to mobilise air as hot air rises due to its lower pressure.

Stack ventilation is employed in the double volume of the CC Administration and Media Centre Block (Figure 9.66). Inlets are placed low in the room and outlets higher up to leverage natural air convention and cool the interior space.

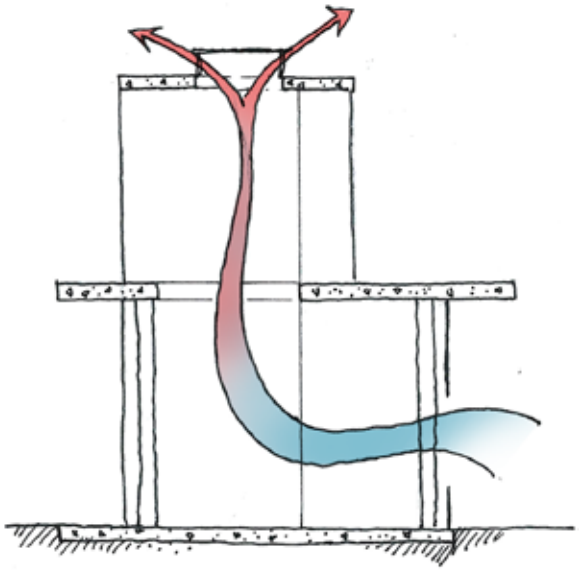


Figure 9.66
(Author, 2016)

Hot air rises and the resultant low pressure draws fresh air from the outside (Author, 2016)

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9.5.2_ DESIGNING FOR THERMAL COMFORT

9.5.2.1_Thermal Comfort

Interior spaces of the CC will to be kept comfortable for human inhabitation using passive heating and cooling techniques as well as the geothermal heat pump hybrid system.

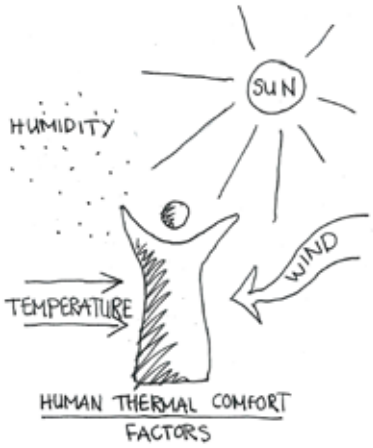


Figure 9.67
(Author, 2016)

9.5.2.2_Passive Heating & Cooling

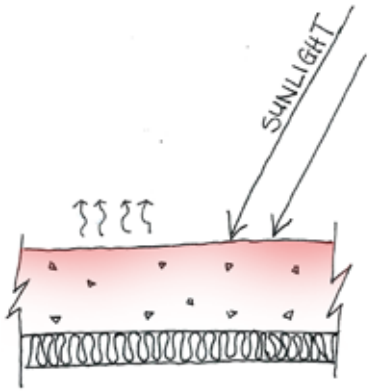


Figure 9.68
Thermal Mass of the Concrete Floor (Author, 2016)

Direct solar gain is achieved using the thermal mass of the concrete slab floors, extending the climate band in winter. Floor insulation prevents solar heat gain from radiating into the ground.

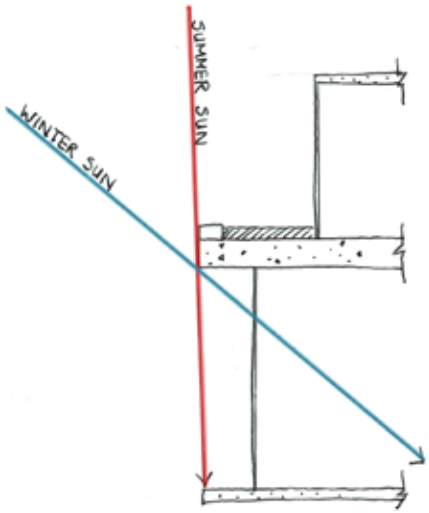


Figure 9.69
Overhangs & Shading (Author, 2016)

The roof overhangs are designed to allow winter sun to penetrate the interior, while direct summer sun is restricted by the overhang.

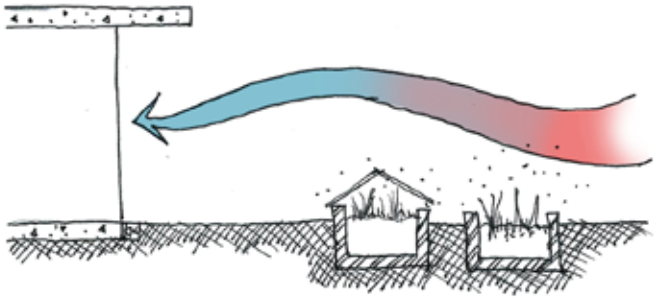


Figure 9.70
Evaporative Cooling (Author, 2016)

Evaporative cooling works well in Johannesburg's hot and dry climate. The placement of the wetland and fountains on the Southern and eastern elevations work with the natural prevalent wind directions (refer to Figure 9.61) to supply cool air into the active areas of the Black Box and the City Workshop.

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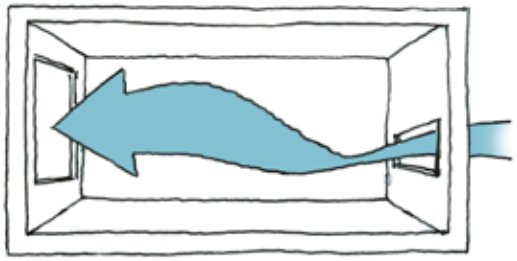


Figure 9.71
Aperture size for Cooling (Author, 2016)

Pairing a large outlet with a small inlet increases incoming wind speed.

9.5.2.2_Geothermal Pipes

A geothermal earth tube system regulates the building's internal environment. Johannesburg experiences seasonal temperature fluctuations, with averages of 16°C in winter and 25.6°C in summer, however, underground temperatures of 8-11°C are relatively consistent throughout the year. Earth tube systems exploit heat transfer to cool or heat the outdoor air drawn through the pipes, depending on the season, and pump thermally comfortable air into the building's interior.

Increasing the length of the earth tube increases the opportunity for heat transfer, but if the earth tube is too long, air cannot move through the system effectively. Therefore, earth tubes should not exceed 73m in length (Grondzik & Kwok, 2007). To reach an air change rate of 10 per hour for the Creative Conservatory's area of 1000m², an airflow rate of 10000m² per hour is needed. Therefore, 150m diameter earth tubes will run below the building in 70m lengths. The tubes need to be laid at least 600mm below the ground to regulate the internal condition at 25°C. Air intake occurs in a cool part of the site, next to the shaded trees by the vertical flow constructed wetland.

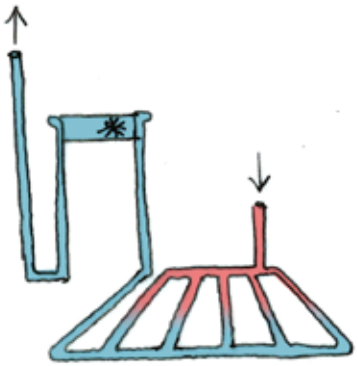


Figure 9.72
Diagram illustrating the workings of the geothermal system (Author, 2016)

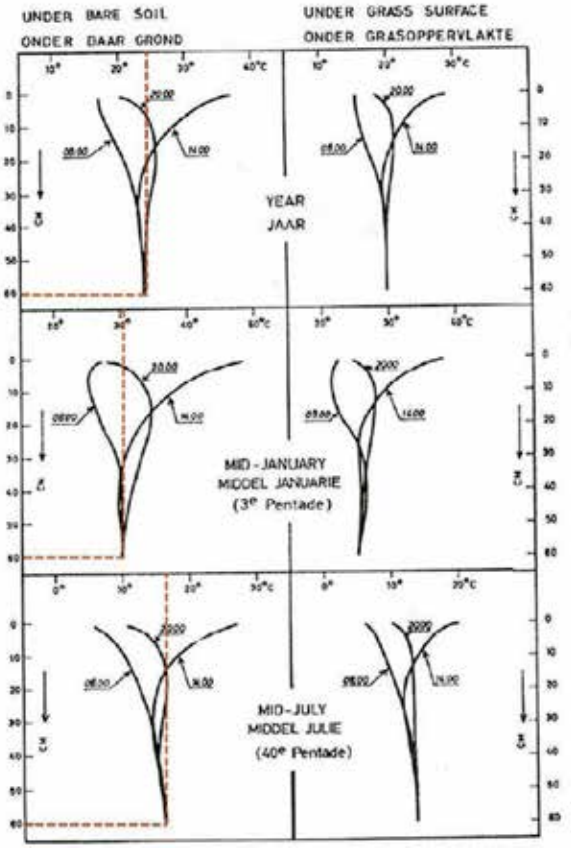


Figure 9.73
These graphs illustrate the change in earth temperature at different depths underground, indicating that 600mm is the minimum requirement (Holm, 1996)

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9.5.3_DESIGNING FOR DAYLIGHTING

The L-shaped plan of the CC results in half the building having north and south facing façades, which is preferable, and the other half having west and east facing façades. The western façade is shaded by trees, but the eastern façade may result in unwanted glare. The building skin is primarily glazed, so different types of glass are used to adjust the quantity and quality of daylight entering the different spaces, depending on their individual requirements. Skylights provide light from above, as well as a visual connection between people walking on the living roof and the occupants below.

9.5.3.1_Skylights & Top Lighting

Higher apertures will need to be introduced to bring light into the west/east facing blocks of the CC. Top lights are much brighter than side lights per unit area, for example, the amount of light brought in from a roof light compared to a side window is: vertical monitor x2, angled monitor x3, and horizontal skylight x5 (Autodesk, 2016).

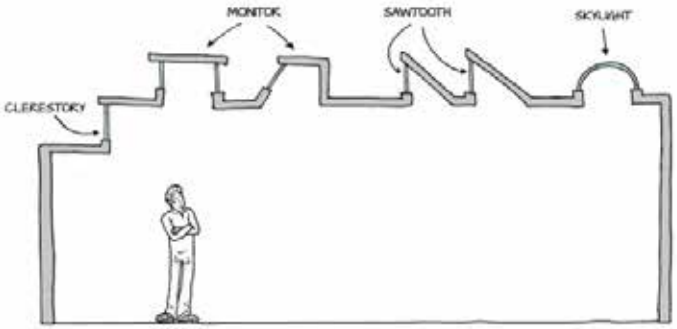


Figure 9.74
There are various types of top lighting that can be used in the CC (Autodesk, 2016)

9.5.3.2_Light Shelves

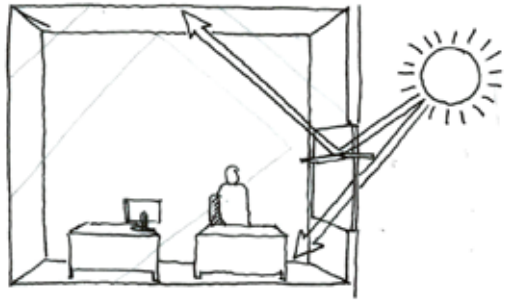


Figure 9.75
Light Shelves (Author, 2016)

Reflecting sunlight off surfaces, such as light shelves, helps evenly distribute interior lighting and reduce glare caused by direct sunlight. This strategy is employed on the eastern façade. Light shelves divide windows providing viewing area at the bottom and daylighting at the top. Light skelves on the east and west effectively reduce heat gain and glare.

Baffles are vertical light shelves used to direct and distribute daylight from above to reduce glare, and will be used with certain skylights in the CC.

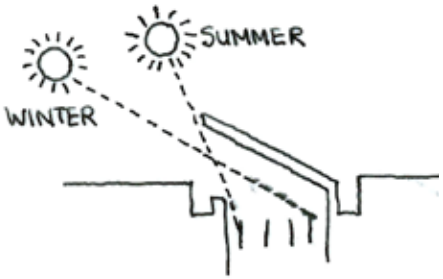


Figure 9.76
Baffles (Author, 2016)

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9.5.4_ DESIGNING FOR VISUAL COMFORT

This section will consider the City Workshop space of the Creative Conservatory and iterate the design to improve visual comfort levels. Visual comfort is the light required for an occupant to successfully and comfortably complete certain activities in a space, and daylighting is preferable for sustainability, as well as visual reasons.

9.5.4.1_ Basic Principles of Light & Perception

Light is described and measured in multiple ways: the amount of light emitted by a source is luminous flux (lumens), the measure of light falling on a surface is illuminance (lux), and the quantity of light reflected off a surface perceived by the inhabitant is luminance (m^2) (Autodesk, 2016). These quantities change depending on the distance between the source, the surface, and the inhabitant.

Illuminance (lux or lumen/ m^2) is the common measurement for the optimisation of visual comfort and defines the light levels required for different activities and environments. Luminance values are more concerned with the quality of light in a space rather than quantity, making it a good method for interpreting distribution and glare, but a poor reflection of the capacity of a space to have enough light for its intended use (Autodesk, 2016).

SUNLIGHT VS. DAYLIGHT

The sun is a predictable light source perceived as sunlight or daylight. Sunlight is direct light from the sun entering a space and can produce glare and excessive heat gain. Daylight is diffused natural light from the sky and is desirable for interior space due to its even distribution. As the sun is predictable, daylight is a reliable light source.

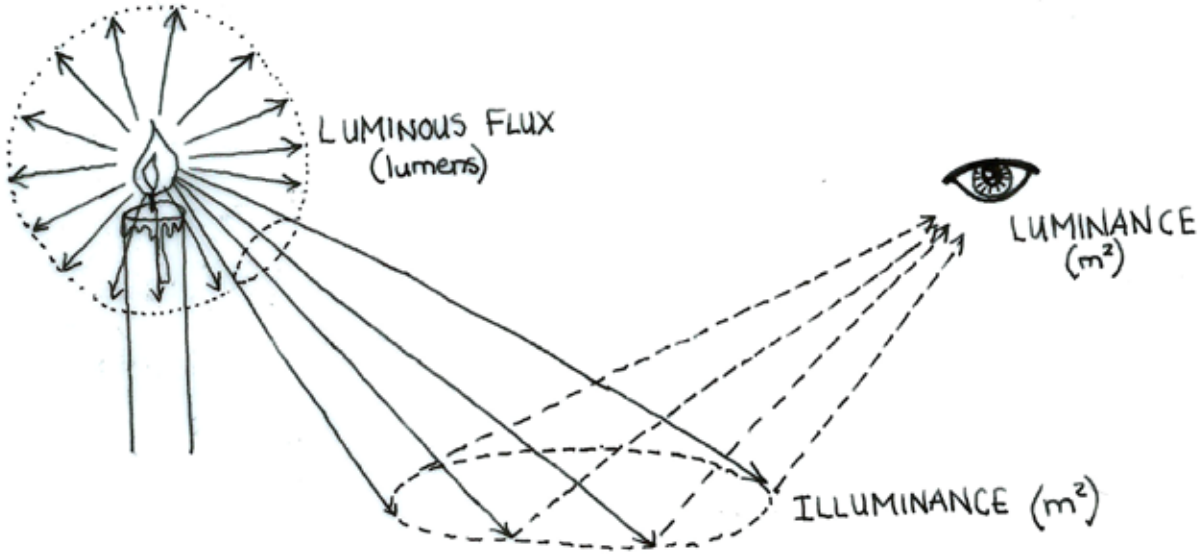


Figure 9.77
Light & Perception (Author, 2016)

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9.5.4.2_ Illuminance Values

The Workshop falls under the category of 'interior with some/moderate demand for visual acuity', meaning the Standard Maintained Illuminance ought to be between 300-500 lux (Autodesk, 2016). The illuminance value of the sky's brightness during full daylight is 10,752 lux and 1,075 lux on an overcast day (Autodesk, 2016).

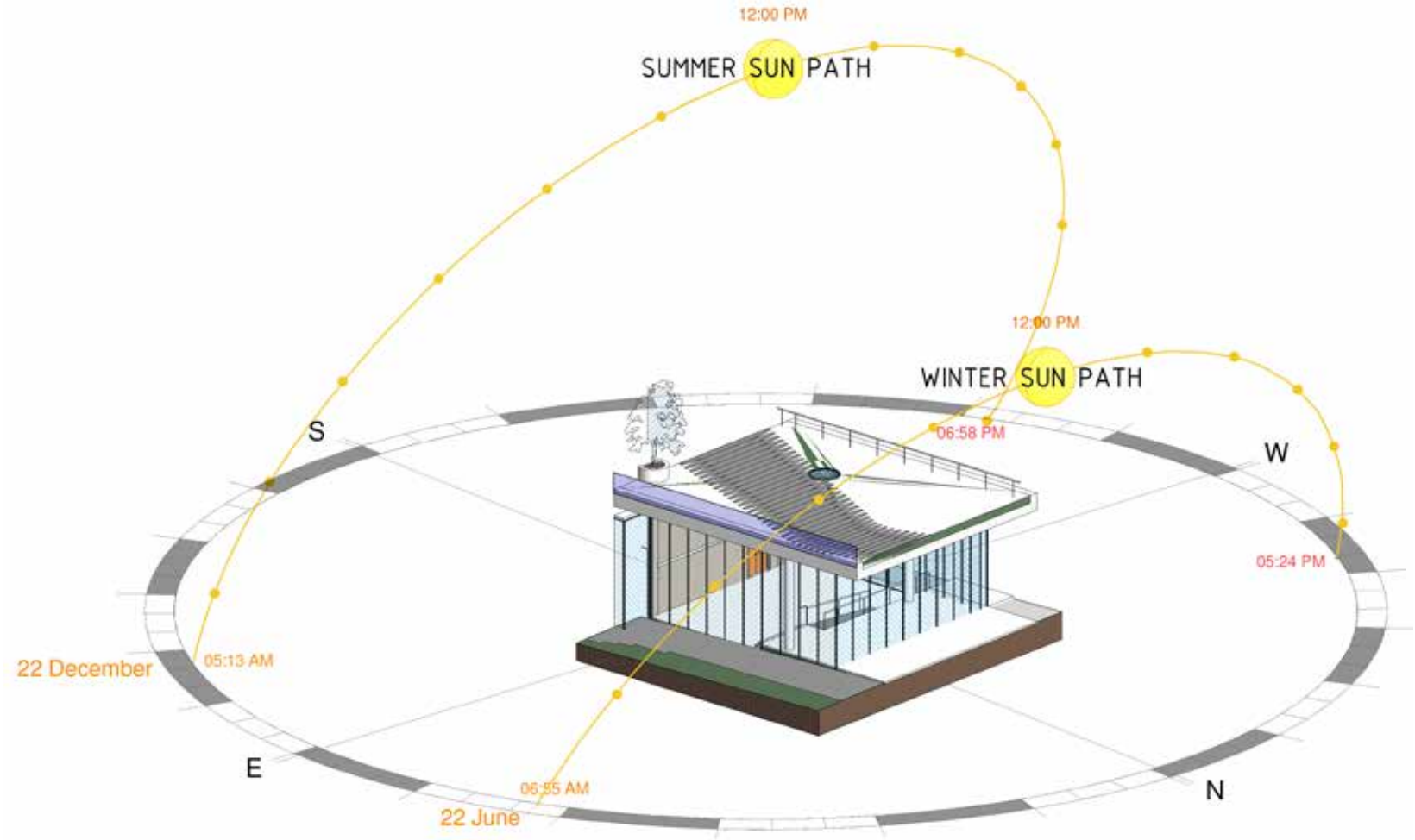


Figure 9.78
Diagram illustrating the summer & winter solstice paths (Author, 2016)

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9.5.4.3_Iterating the Workshop for Visual Comfort

BASE CONDITION

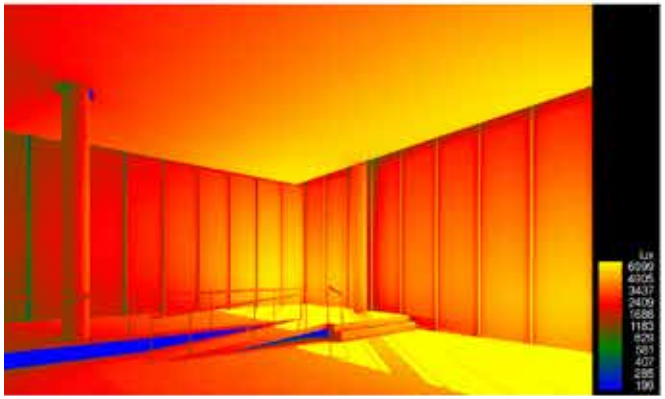


Figure 9.79
Base Study (Author, 2016)

The initial illuminance render of the Workshop highlights the problematic glare entering the interior from the eastern façade. The light quality in the interior is uneven, with the western side heavy shaded by adjacent buildings and trees while the east has little contextual shadowing.

VERTICAL SHADING LOUVERS

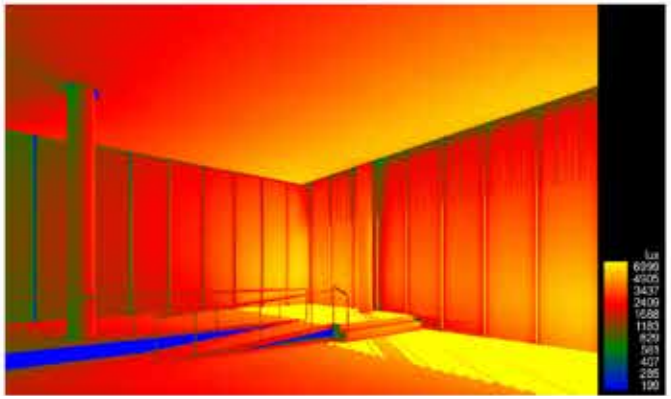


Figure 9.80
East Louvers (Author, 2016)

Vertical louvers were added on the eastern façade to mitigate the extreme glare. This was relatively successful, but glare was still problematic.

ADJUSTED SHADING & SKYLIGHT

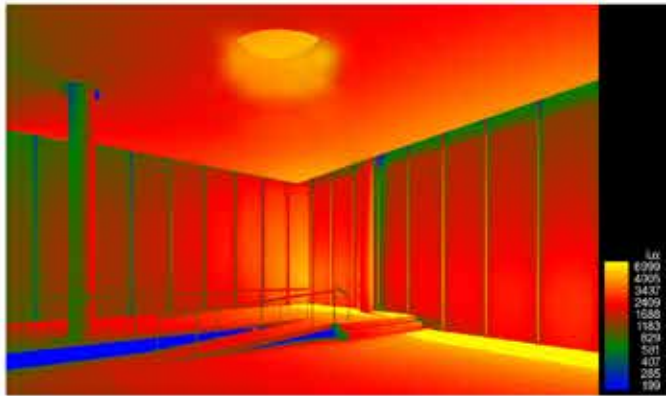


Figure 9.81
Skylight Addition (Author, 2016)

The vertical louvers were increased in length, successfully reducing glare. In order to generate a more uniform lighting condition, which is preferable for visual comfort, a skylight was introduced. During the day, the Workshop's lux requirements are met by daylighting, reducing the need for electronic light sources.

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9.5.5_ENERGY STRATEGY

(Please refer to Appendix B for energy calculations)

The CC is connected to the city grid but also generates its own power using solar and kinetic energy. The building requires approximately 75,803 kWh per year. Solar panels generate an estimated 33,966 kWh, reducing the building's reliance on city power. The CC uses energy saver appliances and lighting to meet the demands of users.

9.5.5.1_Evaculated Tubes

Evacuated tubes are implemented to heat the water used by the Creative Culinary School and its restaurant facilities as well as the staff showers.

9.5.5.2_Solar Energy

34 solar panels, with a 300 W power gain per tile, are mounted on the roof and generate 33,966 kWh per year. The panels are installed facing north at a 26 degree tilt so as to optimise efficiency. The landscape lighting fixtures also have their own pvc panels which absorb solar energy in the day and light up in the evening.

9.5.5.3_Kinetic Energy

Kinetic playground equipment is installed in the existing playground. Each element is able to generate 31,55W/hr play, so assuming each of the 10 elements is in play for 2 hours per week day and 5 hours per weekend day, the playground generates approximately 6.31kW per week and 340.74 kW per year.

Figure 9.82
(Author, 2016)







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9.5.6_WASTE STRATEGY

9.5.6.1_Recyclable Waste

Paper, plastic, and glass waste is recycled by the City's collectors and local artists who are able to use the resources to earn a living.



9.5.6.2_Non-recyclable Waste

Non-recyclable waste is traditionally disposed of in garbage bins collected weekly. Pickup locations on King George St and Wolmarans St serve this purpose.



9.5.6.3_Greywater

Greywater from the restaurants, kitchenettes, and sinks is filtered through a vertical flow constructed wetland and used in the irrigation of the Park or UV filtered for use within the building (refer to section 9.6.3 for more information).



9.5.6.4_Organic Waste

A biodigester is used to recycle the kitchen offcuts from the culinary school and restaurant into biogas used for cooking. Toilet flushing also enters the biodigester where it is safely recycled.



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9.5.7_SBAT Rating

The SBAT rating system considers social, economic, and environmental factors to access the sustainability of a building.

Figure 9.83
(Author, 2016, generated from SBAT)

SUSTAINABLE BUILDING ASSESSMENT TOOL

1,04

	Achieved
SB SBAT REPORT	**4,6**

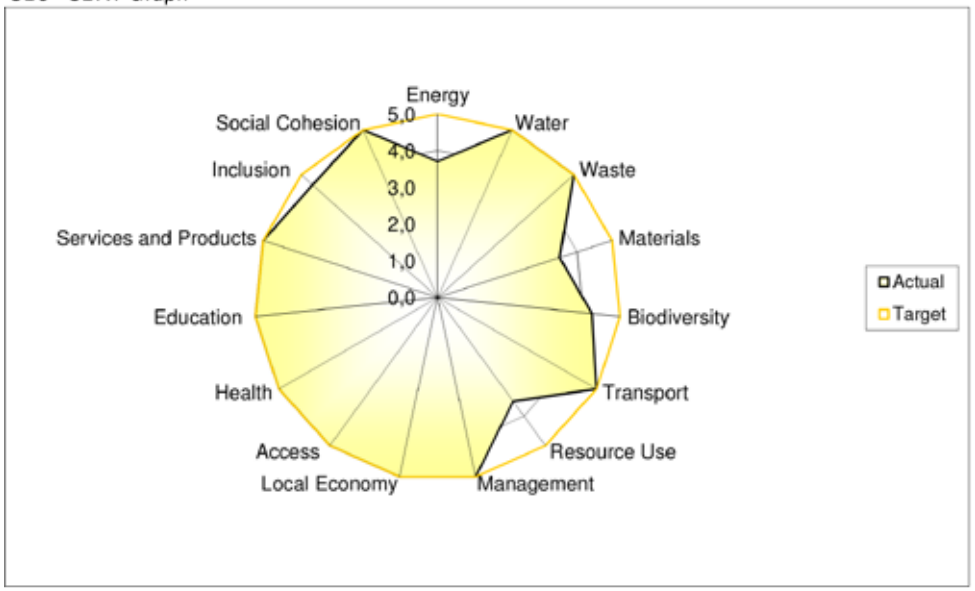
SB1 Project

The Creative Conservatory

SB2 Address

Conservatory Complex, Joubert Park, Johannesburg

SB3 SBAT Graph



SB4 Environmental, Social and Economic Performance	Score
Environmental	**4,3**
Economic	**4,7**
Social	**4,9**
SBAT Rating	4,6

SB5 EF and HDI Factors	Score
EF Factor	4,3
HDI Factor	4,9

SB6 Targets	Percentage
Environmental	86
Economic	94
Social	98

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9.6_WATER SYSTEM EXPLORATION & INTEGRATION

9.6.1_WATER STRATEGY

Johannesburg has a historically difficult relationship with water, being the only major city established without direct access to a substantial waterway. Joubert Park is literally an oasis, and a sustainable water strategy is paramount to upkeep Joubert Park and the proposed living roof of the CC.

The water strategy illustrates the importance of water by reusing and recycling grey water and rainwater in an accessible and educational manner. The building runs completely off rain and grey water, with Rand Water backup systems in place for the unlikely event that there isn't sufficient collected water.

Visual and haptic connections to water and the landscape it supports is explored in the CC Complex, using fountains, ponds, and wetlands. This connects to the Victorian heritage of fountains and the natural landscape of the Park.

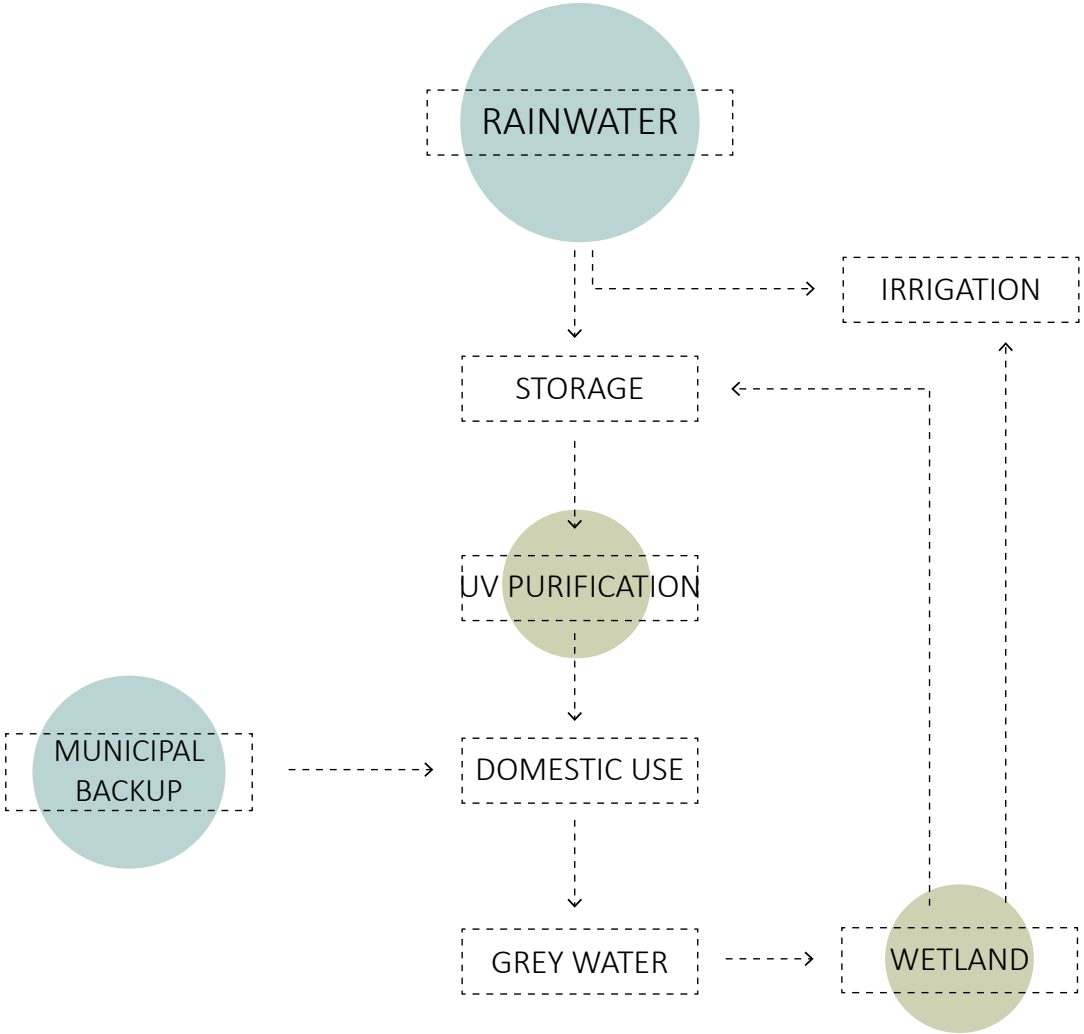


Figure 9.84
(Author, 2016)

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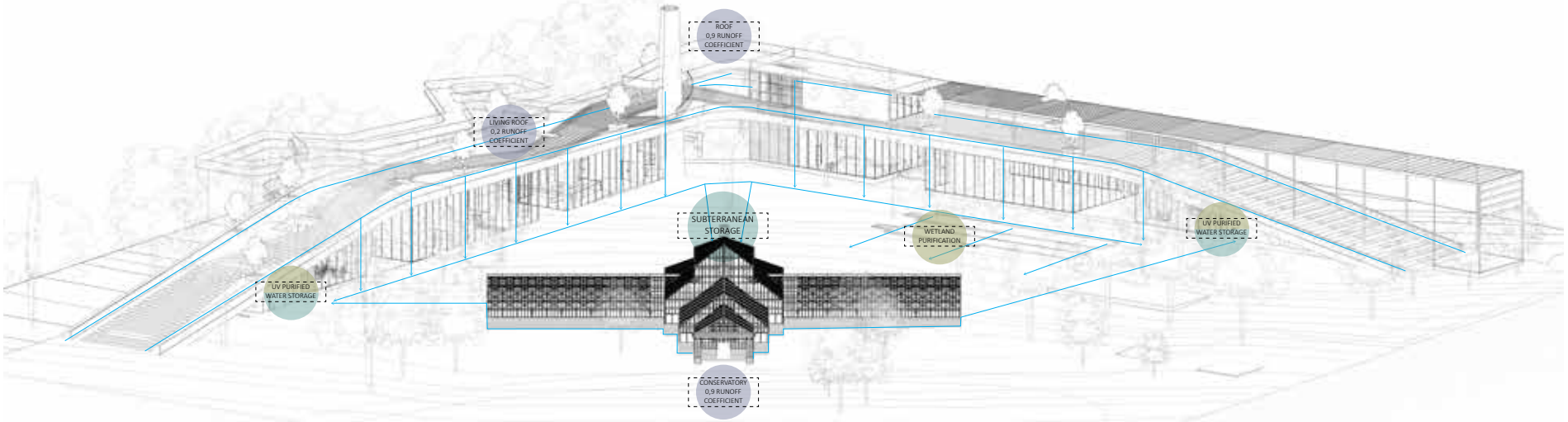


Figure 9.85
(Author, 2016)

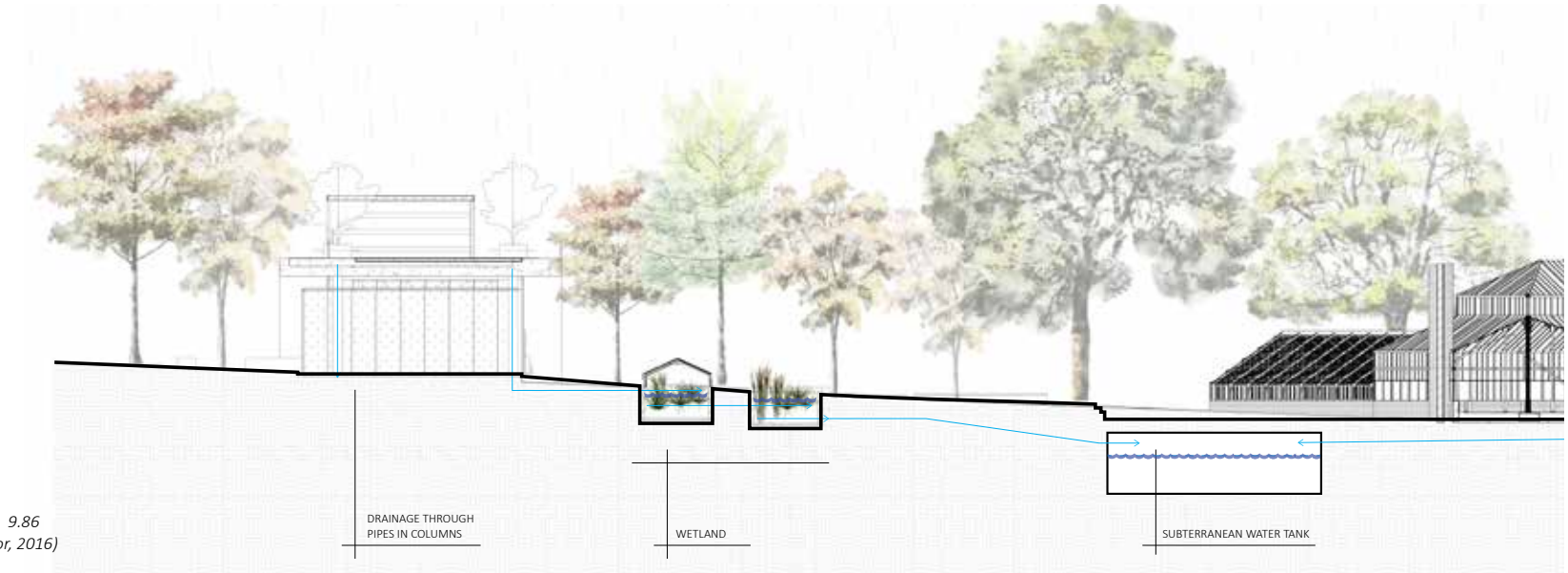


Figure 9.86
(Author, 2016)

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9.6.2_WATER COLLECTION & DEMAND

Please refer to Appendix A for detailed water calculations.

9.6.2.1_Collection

RAINWATER
Rainwater will be collected from the roofs of the Creative Conservatory as well as the heritage Conservatory. It is estimated to yield 646 m³

GREYWATER
Greywater from showers, cooking, and sinks will be filtered via a vertical flow constructed wetland and stored in the primary subterranean tank (Refer to section 9.6.3 for more information). An estimated 8.82 m³ of greywater is harvested per month.

9.6.2.2_Demand

DOMESTIC
The calculated monthly domestic demand for the Creative Conservatory Complex is 16,94m³, while the yield is 148.87 m³ in January. A safety factor of 2 is considered in the tank sizing to plan for droughts, necessitating a tank of at least 33.88 m³. The water is stored in a central primary tank of 40m³ and transferred to two smaller secondary tanks near the ablution services where it is treated further for domestic use (Refer to section 9.6.4 for more information). The Wolmarans Street tank is 12 m³ and the King George Street Tank is 21 m³, according to their monthly requirements.

IRRIGATION
The green roof is planted with indigenous species which will not require supplementary irrigation due to the water storage capacity of the drainage plate within the green roof's construction.

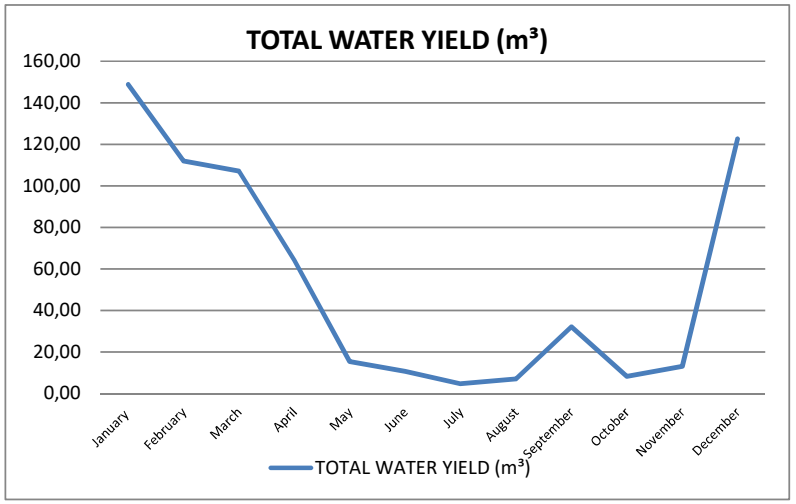


Figure 9.87
(Author, 2016)

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9.6.3_GREY WATER FILTRATION_ VERTICAL FLOW CONSTRUCTED WETLAND

Constructed wetlands are planted filter beds used to treat greywater. There are three types of constructed wetlands: Free Surface Constructed Wetlands, Horizontal Flow Constructed Wetlands, and Vertical Flow Constructed Wetlands. Grey water produced by the CC will be recycled naturally by a Vertical Flow Constructed Wetland (VFCW). Grey water is treated to separate unwanted solids and oils and thereafter stored in a holding tank which seeps into the two tier VFCW located in two of the old propagation tunnels already present on site. The VFCW filters the water which is used for irrigation, the flushing of toilets, or passes through a UV ¬filter, enabling domestic usage. The wetland will not only filter grey water, but also complement the landscape's aesthetic and promote biodiversity.

9.6.3.1_VFCW Working Principle

Filtered greywater is intermittently applied (4-10 times a day) to a planted filter bed from above where it percolates vertically through the unsaturated filter substrate, allowing physical, biological, and chemical processes to purify the water (Morel & Diener, 2006). Treated water is collected at the bottom of the basin by a drainage pipe and stored.

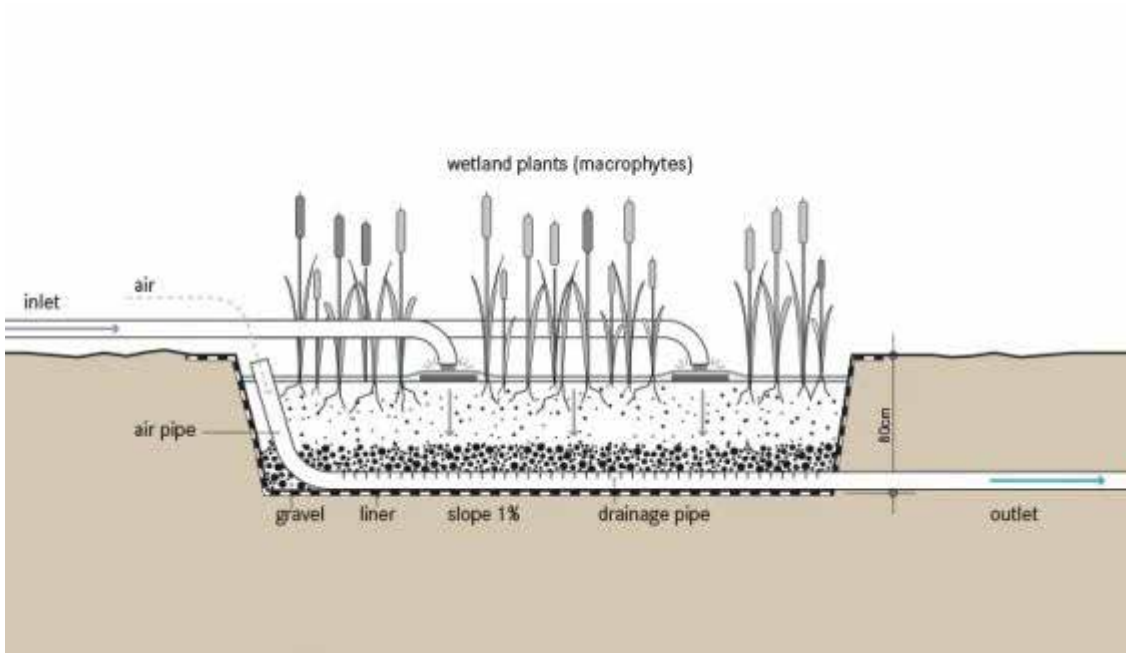


Figure 9.88
Schematic of the Vertical Flow Constructed Wetland (Tilley, et al., 2008)

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9.6.3.2_Strengths

(Morel & Diener, 2006)

- Natural processes are used
- Suspended and dissolved organic matter, pathogens, and nutrients are removed efficiently
- No odour
- Mosquitos cannot breed, as they do in Free-Water Surface and Horizontal Wetlands
- Less space is required than for Free-Water Surface and Horizontal Wetlands
- Reduced clogging compared to a Horizontal Flow Constructed Wetland
- Planting becomes an ornamental landscaping feature
- Low operation and maintenance costs

9.6.3.3_Weaknesses

(Morel & Diener, 2006)

- Even wastewater distribution requires a pump system and thus electricity
- Pre-treatment of the wastewater is needed to prevent clogging

9.6.3.4_Plants

The following water based plants are used for the VFCW system:

Cyperus involucratus
(Figure 9.89)

Cyperus papyrus
(Figure 9.90)

Cyperus alternifolius
(Figure 9.91)

Cyperaceae cypeus
(Figure 9.92)

Ethiopia grass
(Figure 9.93)

Zantedeschia aethiopica
(Figure 9.94)



Figure 9.89 (Meerbrook Pond Plants, 2016)



Figure 9.90 (Yannsgob, 2016)



Figure 9.91 (Mullany, 2016)



Figure 9.92 (Prosperi, 2016)



Figure 9.93 (Creative Commons, 2008)



Figure 9.94 (Eurobodalla Shire Council, 2016)

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9.6.4_WATER STORAGE

The rainwater storage system of the CC was extensively considered to arrive at the final construction resolution. Water from all the downspouts of the Creative Conservatory Precinct is piped to a central filter to remove solids. The filtered water is stored in a master underground tank. A pump draws the water to be disinfected and stored in secondary tanks by the ablution services.

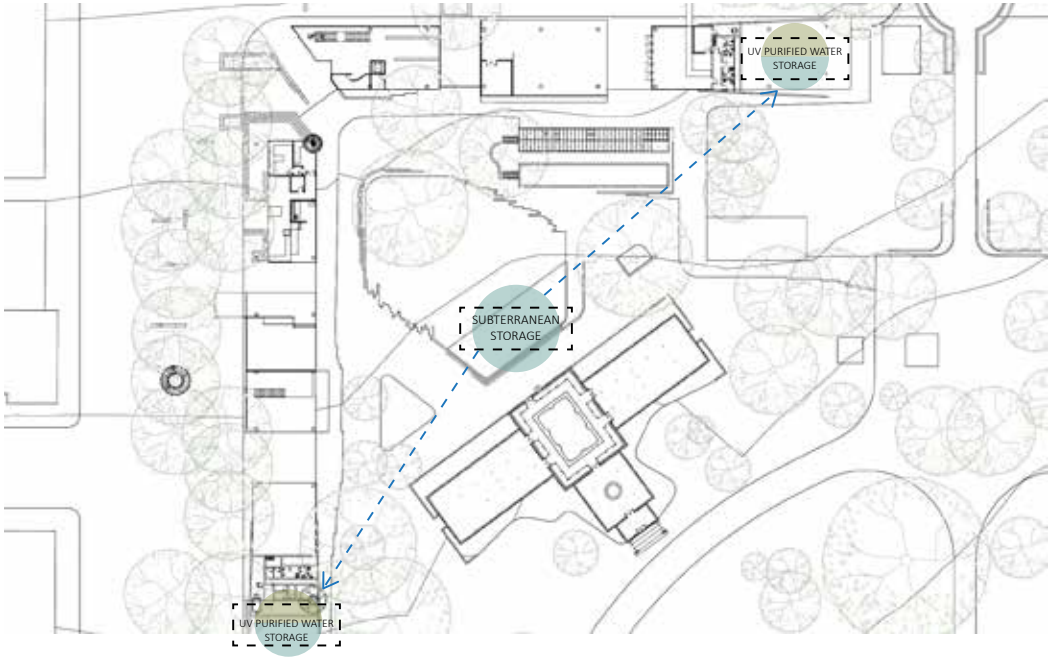


Figure 9.95
Water Storage Plan Diagram (Author, 2016)

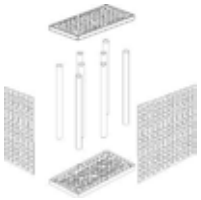
Figure 9.96
Water Storage System (Author, 2016) with images from Conservation Technology (2008)

PREFILTRATION + STORAGE + PUMPING + POST-TREATMENT + BACKUP INTEGRATION



LARGE BASKET FILTER

A large screened filter basket sits within a plastic body, and water flows through the inlet port and the basket and out the outlet port, filtering 100% of the rainwater. The filter is buried and accessible through a manhole cover.



RAINCAVERN

An underground storage system has been selected as it is unobtrusive and unaffected by freezing weather. The underground tank's cool, dark conditions prevent algae and microbial growth. The 'RainCavern' is an underground water chamber consisting of modular plastic elements wrapped in waterproofing and backfilled with earth. The modules are easy to assemble and can be manipulated to for any site size or depth. Each module creates a void space capable of storing 360l. The modules can withstand vehicular traffic and are easy to inspect and clean.



SURFACE PRESSURE PUMP

The pump serves as a complete water delivery system operating any irrigation as well as transferring water from the master to the slave storage tanks.



SEDIMENT FILTERS & UV STERILISATION

Rainwater that has been prefiltered can be used for landscape irrigation and exterior applications, but needs to be treated for use within the building. A sediment filter will remove any suspended solids and an ultraviolet steriliser disinfects the water.

RAND WATER

DIRECT BACKUP

A motorised three-port valve connects the rainwater and municipal backup water supplies to the plumbing system. The valve is connected to the rainwater supply by default, but switches to the backup supply if the tank reaches a pre-set low.

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9.7_SERVICE REQUIREMENTS & REGULATIONS

The design and construction of the Creative Conservatory has been conducted to meet the requirements of the South African National Building Regulations.

9.7.1_SANS 204_Energy Efficiency in Buildings

SANS 204 was consulted in the design and technical resolution of the CC to ensure the development of an energy efficient and sustainable building, evidence of which has been relayed in the preceding sections.

9.7.2_SANS 10400_The Application of the National Building Regulations

9.7.2.1_PART A: OCCUPANCY AND CLASSIFICATION

The Creative Conservatory's programmes fall under a combination of classifications (SABS, 2010, pp. 43-44), including:

A1 – Entertainment & Public Assembly
(Occupancy where persons gather to eat, drink, dance or participate in other recreation)
A2 – Theatrical & Indoor Sport
(Occupancy where persons gather for the viewing of theatrical, operatic, orchestral, choral, cinematographical or sports performances)
A3 – Places of Instruction
(Occupancy where school children, students or other persons assemble for the purpose of tuition or learning)
C1 – Exhibition Hall
(Occupancy where goods are displayed primarily for viewing by the public)
C2 – Museum
(Occupancy comprising a museum, art gallery or library)
G1 – Offices
(Occupancy comprising offices, banks, consulting rooms and other similar usage)

9.7.2.2_PART O: VENTILATION

Air requirements for different vacancies of the CC was considered according to SANS requirements (SABS, 2010, pp. 17-19).

Assembly halls = 10 Air changes per hour; 7,5l per person
Theatres =10 Air changes per hour; 7,5l per person
Classrooms =2 Air changes per hour; 7,5l per person
Library =2 Air changes per hour; 7,5l per person
Restaurant = 10 Air changes per hour; 7,5l per person
Kitchens = 20 Air changes per hour; 17,5l per person
Ballrooms = 10 Air changes per hour; 7,5l per person
Conference room = 10 Air changes per hour; 7,5l per person
Cleaners Rooms = 10 Air changes per hour; 1l per person
Office= 2 Air changes per hour; 7,5l per person
Ablutions= 20 Air changes per hour; 20l per person

9.7.2.3_PART P: DRAINAGE

The provision of sanitary fixtures for the CC was calculated using the requirements for the 'provision of sanitary fixtures for public, visitors, students and pupils subject to peak demand (SABS, 2010, p. 32)' for 100 (or less) people

Males:1 toilet pan, 2 urinals, 1 wash-hand basin
Females: 3 toilet pans, 2 wash-hand basins
2 unisex paraplegic ablution facilities are provided

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9.8_SECTIONAL EXPLORATION

9.8.1_LONGITUDINAL SECTIONS

9.8.1.1_Section A-A

Section A-A cuts through the northern block, including the Creative Conservatory Knowledge Centre, Black Box, and the Coffee Concepts Café.



Figure 9.97
Section A-A Key (Author, 2016)

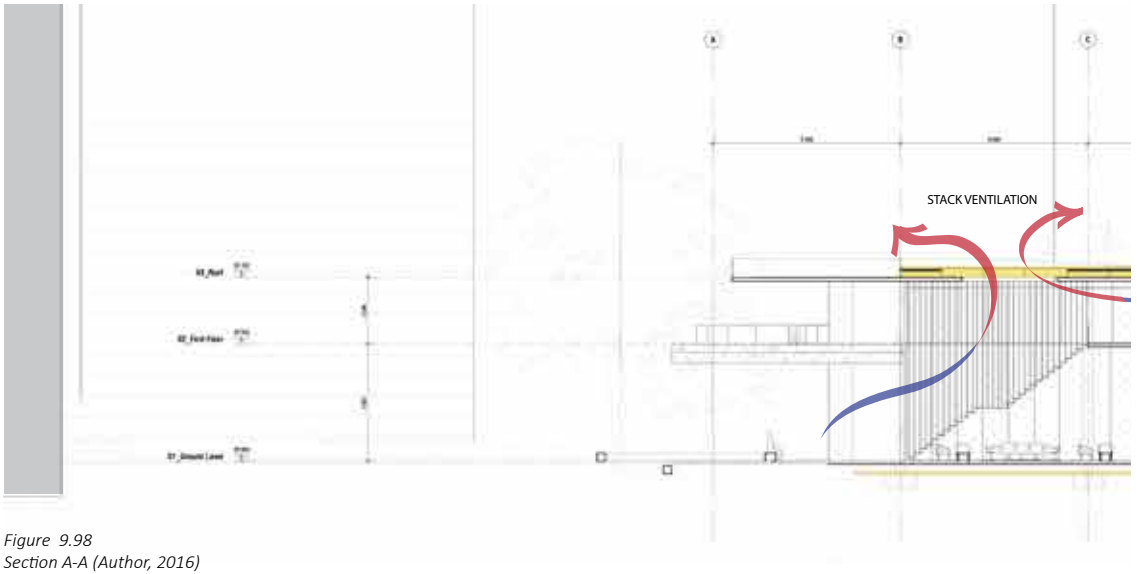


Figure 9.98
Section A-A (Author, 2016)

9.8.1.2_Section B-B

Section B-B cuts through the Black Box, vertical flow constructed wetlands and the Conservatory.

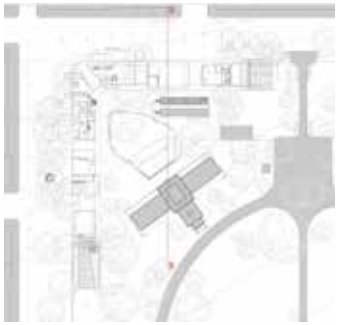


Figure 9.99
Section B-B Key (Author, 2016)

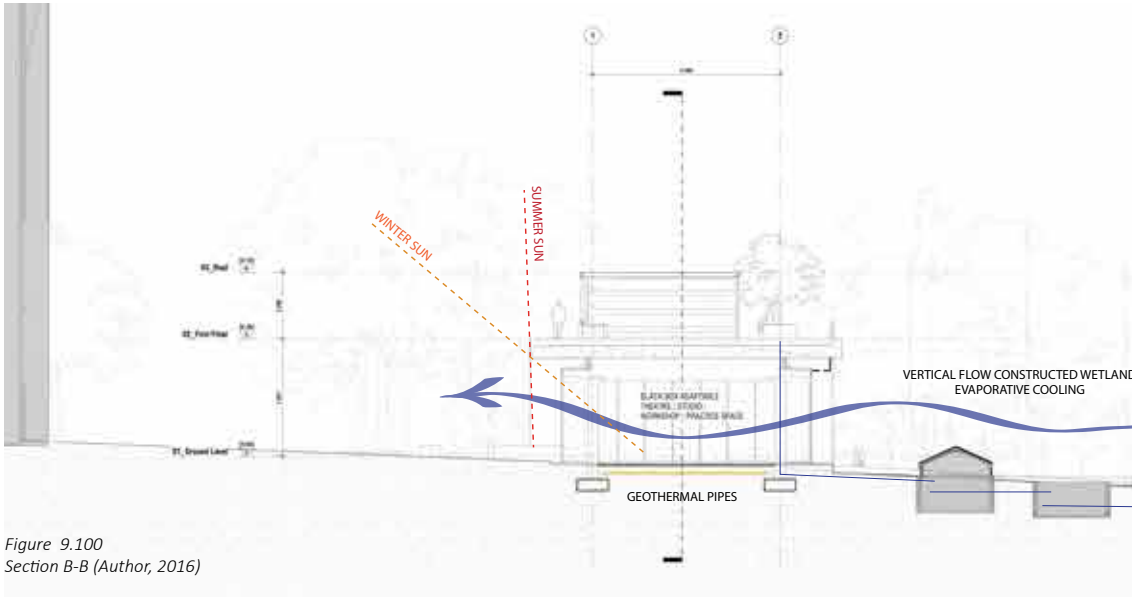
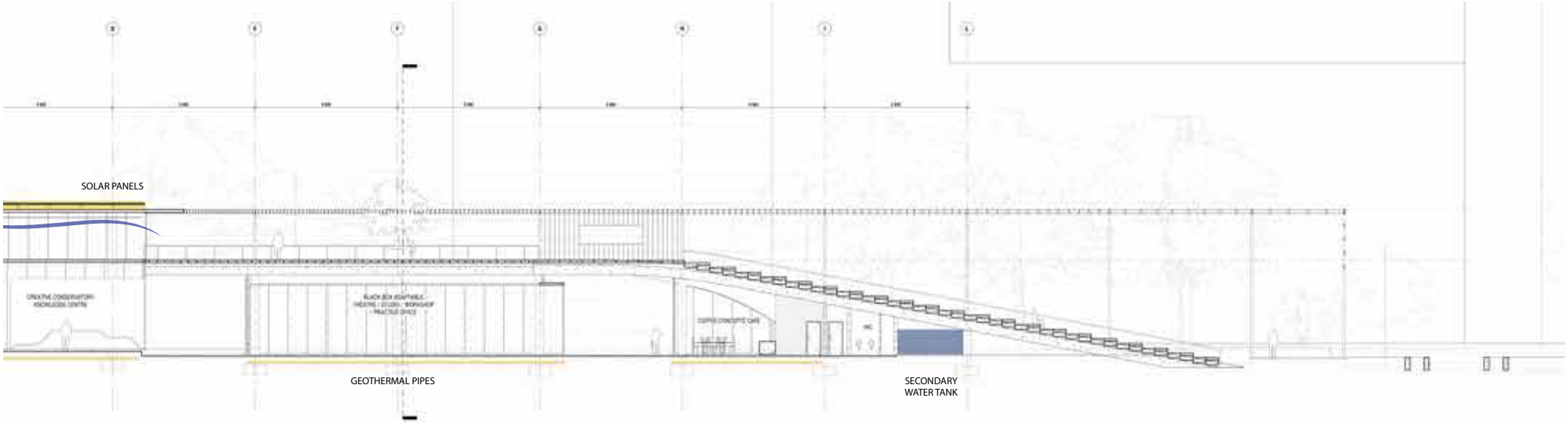
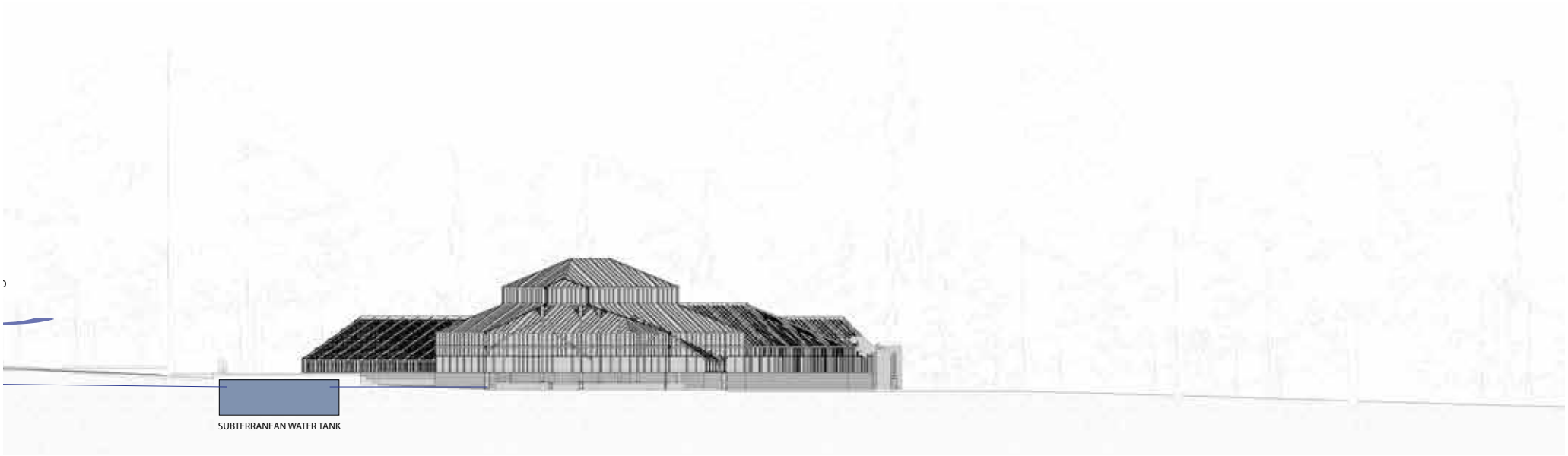


Figure 9.100
Section B-B (Author, 2016)

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9.8.2_ CROSS SECTION

The construction and detailing of a cross section through the CC was explored through iterations. The technology impacted the initial design that drove the construction methods, iterating the section to come to a final resolution.

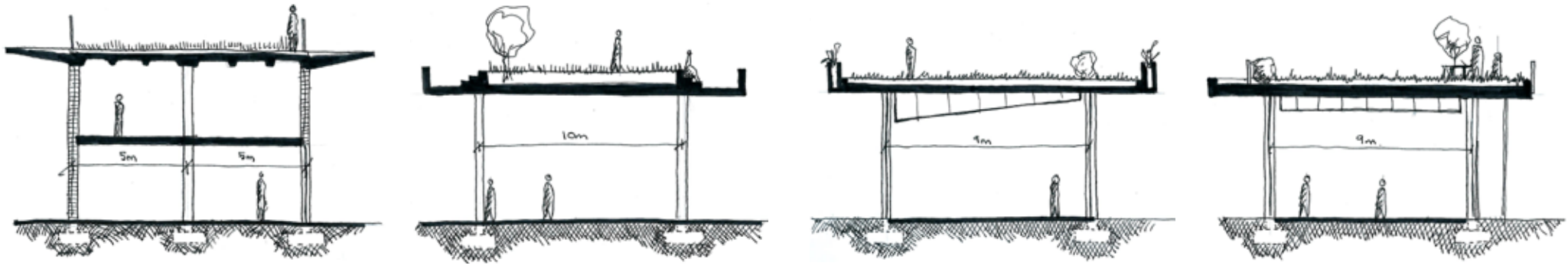


Figure 9.101
Cross section progression (Author, 2016)

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9.8.2.1_Base Section

BASE SECTION

The first structural attempt was a double storey building with a 5mx5m grid and waffle slab. The overhangs tapered and glass balustrades were setback.

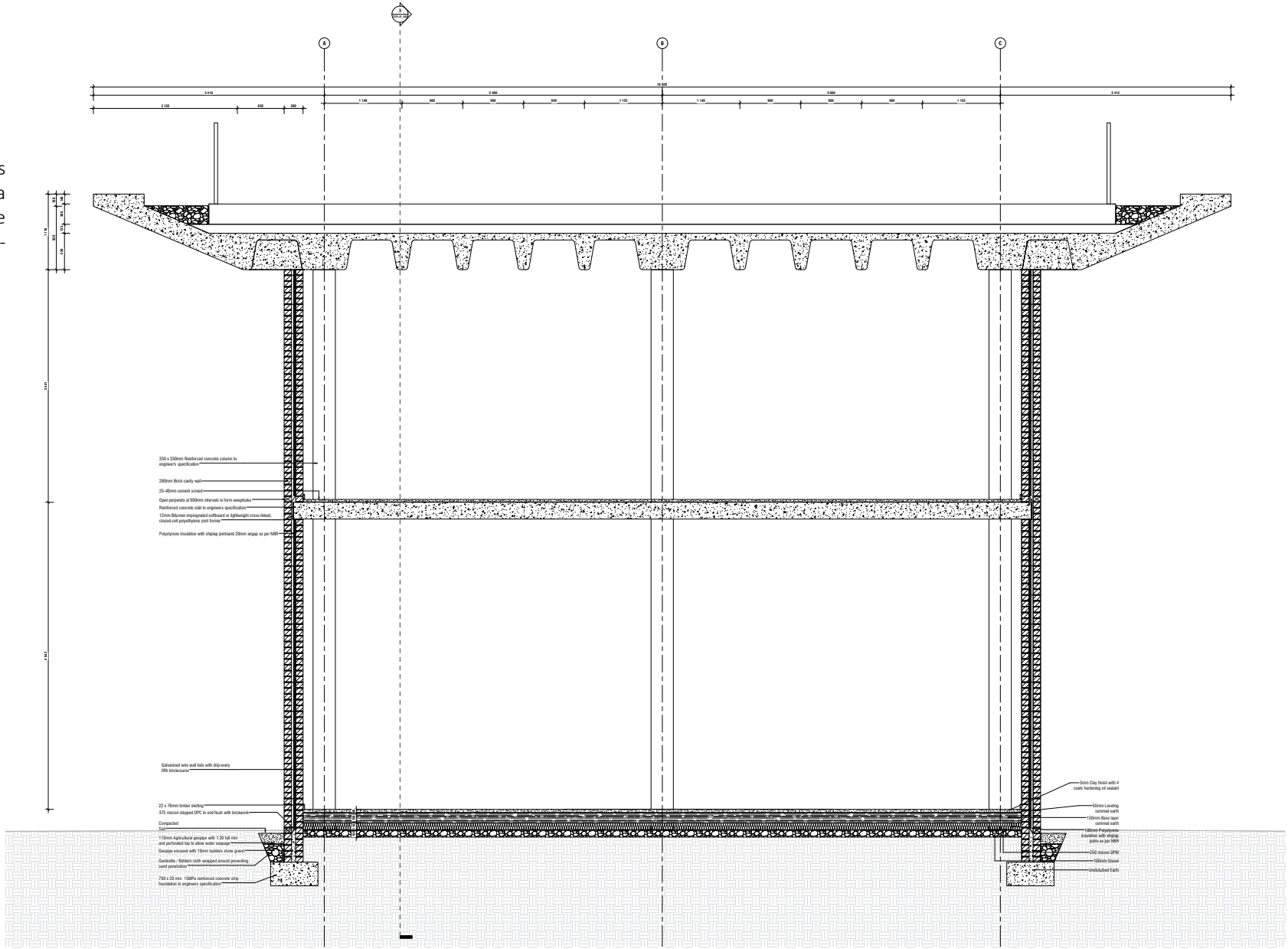


Figure 9.102
Base Section (Author, 2016)

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9.8.2.2_Iteration 1

ITERATION 1

The waffle slab was replaced with upstand beams that also functioned as balustrades. Steps were introduced so that the majority of the planted roof was in line with the balustrade, allowing people to look straight over it whilst walking in the garden. The larger soil depth enabled the planting of shrubs and small trees. The column grid also changed to 10m, with the columns increasing in size to accommodate an open plan, adaptable space. The majority of the building was also reduced to a single storey in order to be more sensitive to the heritage Conservatory. The tapered slab edges of the base design were iterated to straight edges, aligning with the concept of the roof as a heavy element. The façades became primarily transparent glass to represent the tectonic element of the building and identify with the Conservatory.

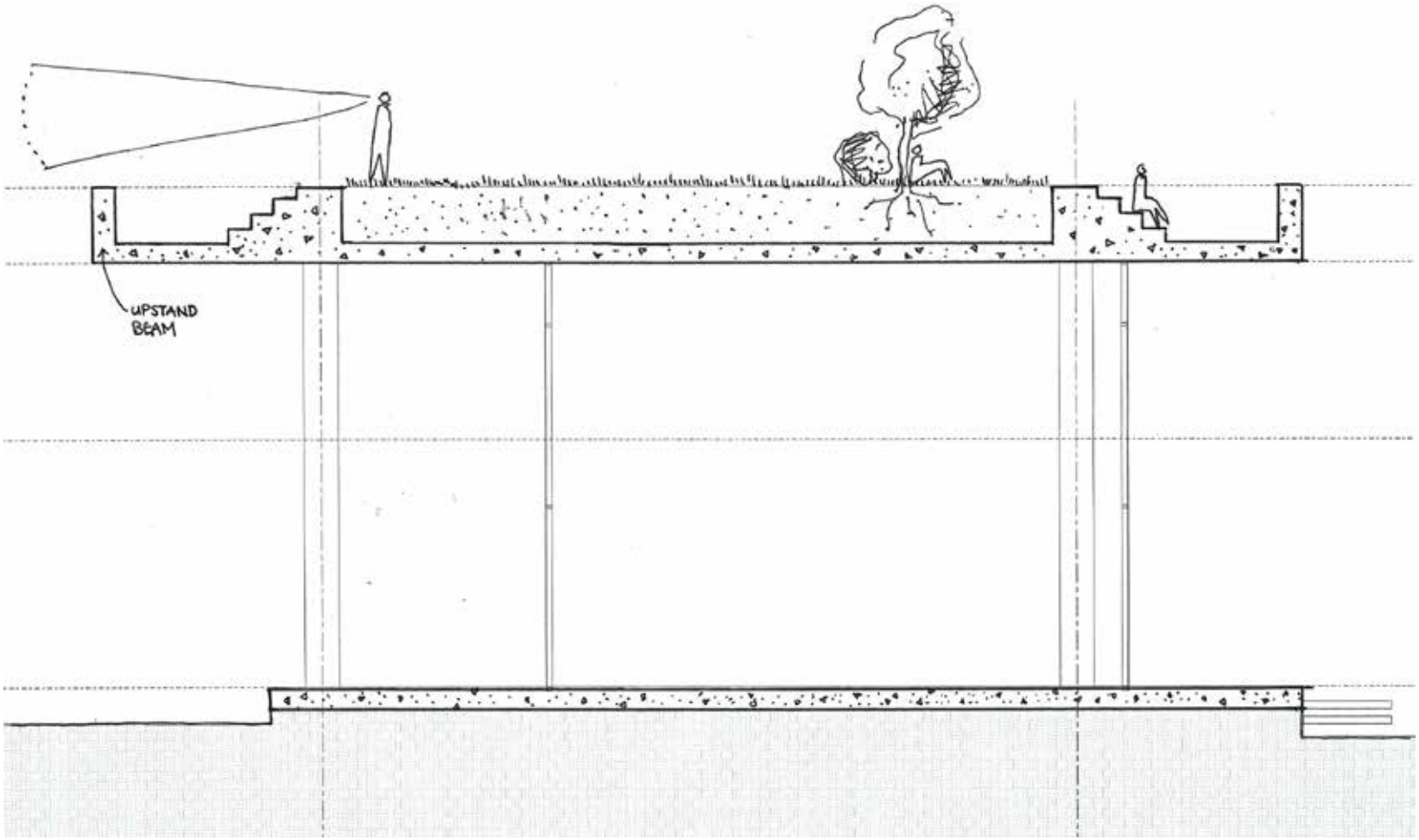


Figure 9.103
Iteration 1 (Author, 2016)

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9.8.2.3_Iteration 2

ITERATION 2

The large upstand beams were replaced by a thick reinforced concrete structural slab, allowing the balustrade to become a planter with vegetation spilling over the edge. As the soil depth was reduced, planter boxes were placed on the column grid to accommodate small trees. Ceilings were also introduced to assist with services and acoustic insulation and also helped define space. The grid was adjusted to 9m x 9m to reflect the proportions of the Conservatory. Skylights were designed to bring light into the interior as well as form a visual connection between those within the building and the people walking on the living roof.

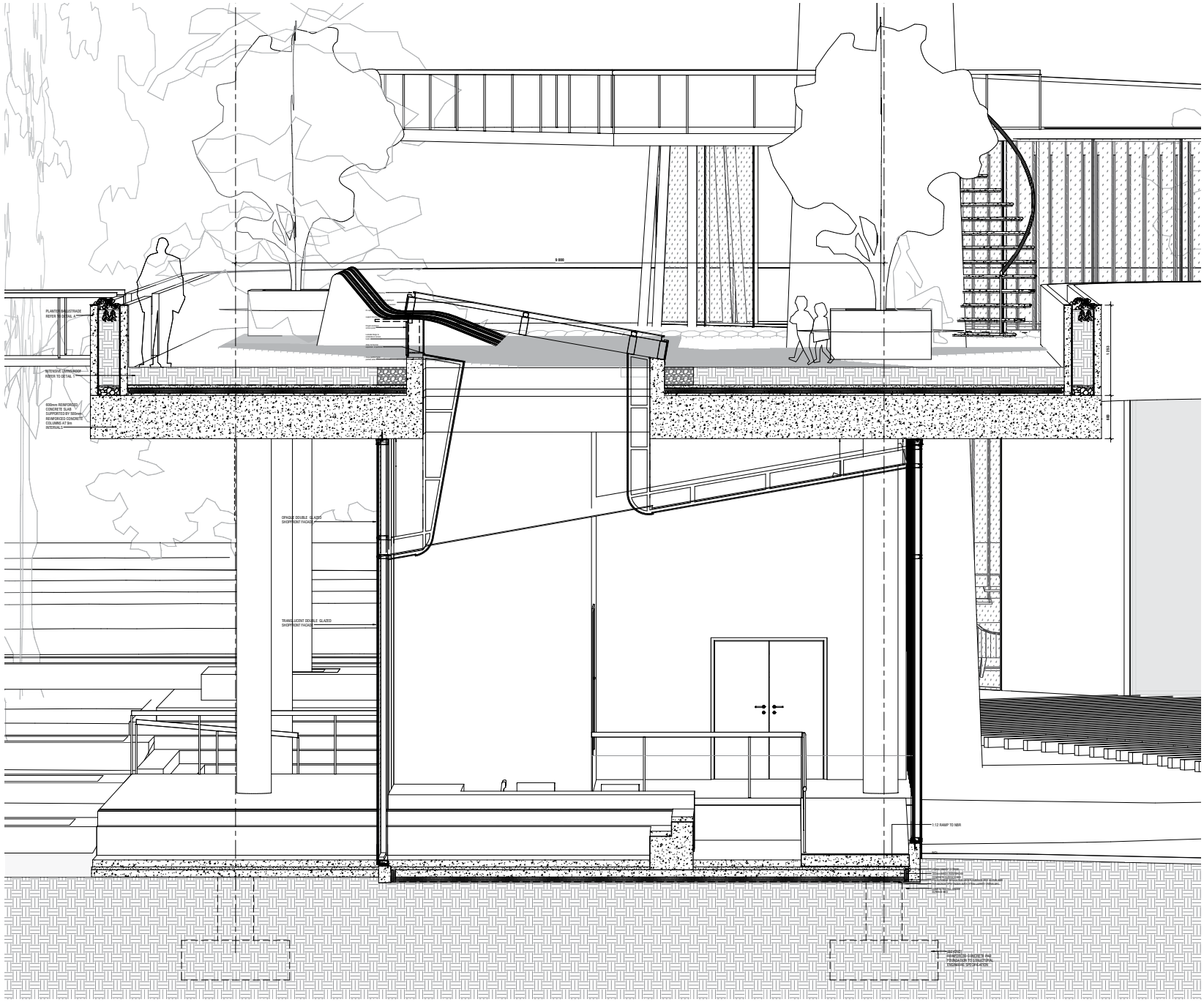


Figure 9.104
Iteration 2 (Author, 2016)

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9.8.2.4_Final Sectional Perspective

FINAL SECTION

The slab edge planters restricted views for children and people sitting on the grass, as such, they were replaced by galvanised steel and glass balustrades. The skylight was reconfigured as a walkable roof light, becoming part of the living roof's landscape. The transparency of façade's curtain wall panels were adjusted according to the needs of the interior functions. The canopy walk was also developed further as the tectonic detail of the cross section.

Figure 9.106 indicates the three details developed, which illustrate the tectonic concept:

Detail 1_ Tectonic Component,
the Canopy Walk

Detail 2_ Stereotomic Component,
the living roof

Detail 3_ Stereotomic / Tectonic Component,
the skylight

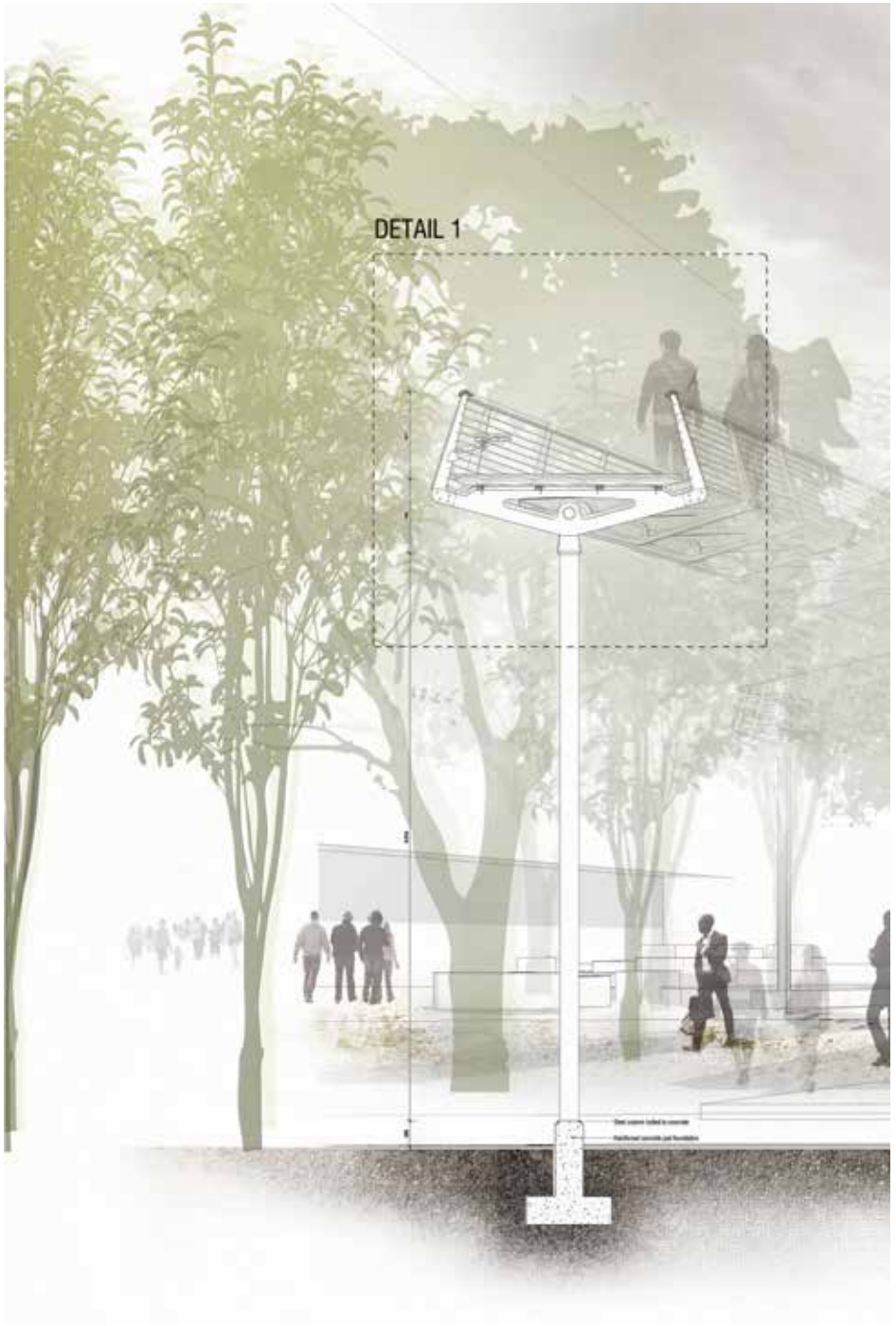
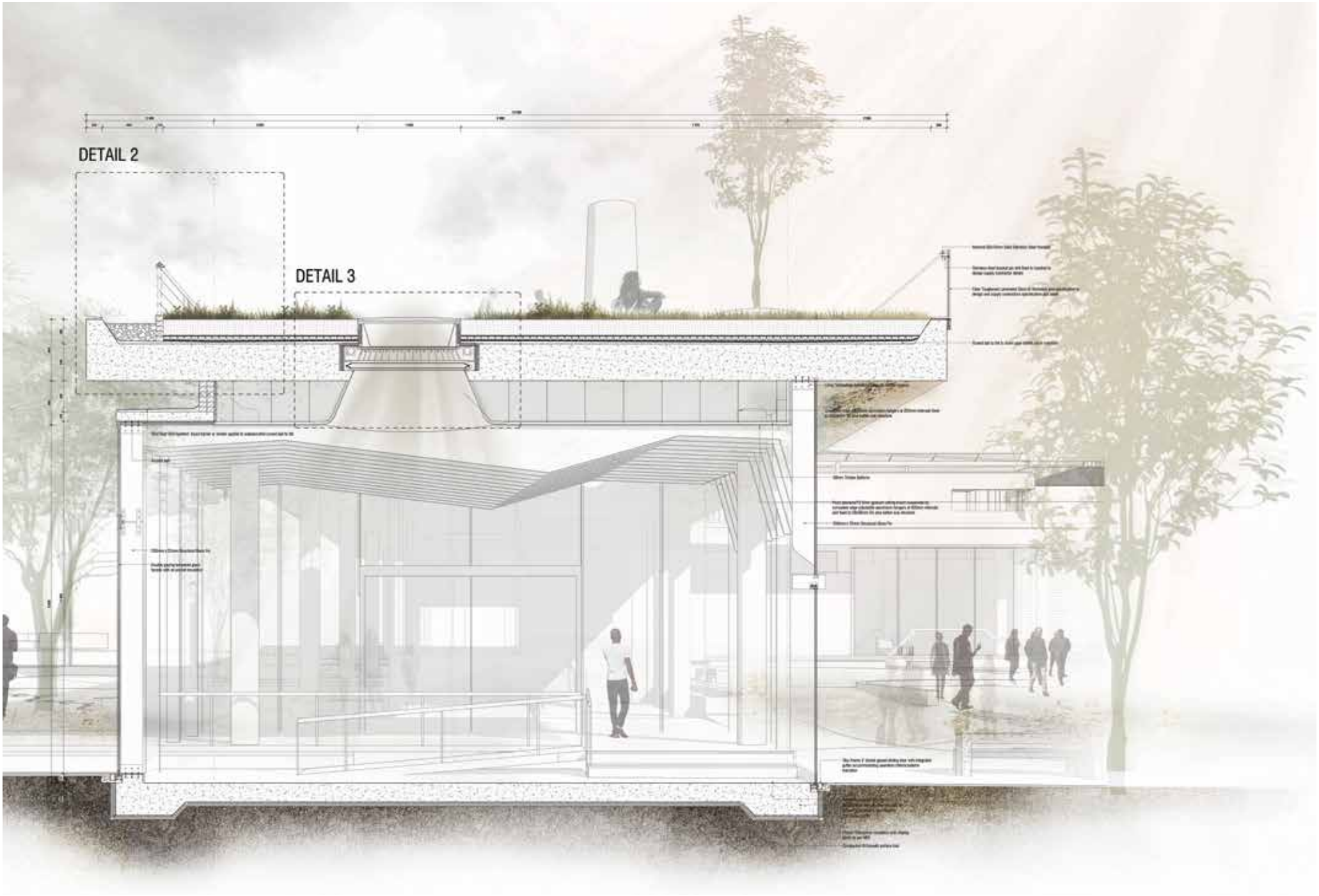


Figure 9.106
Sectional Perspective (Author, 2016)

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9.9_DETAIL RESOLUTION

9.9.2_ DETAIL 1_ TECTONIC COMPONENT

9.9.1.1_Preliminary Detail for the Black Box's Façade

[DEVELOPED FOR ITERATION 2]

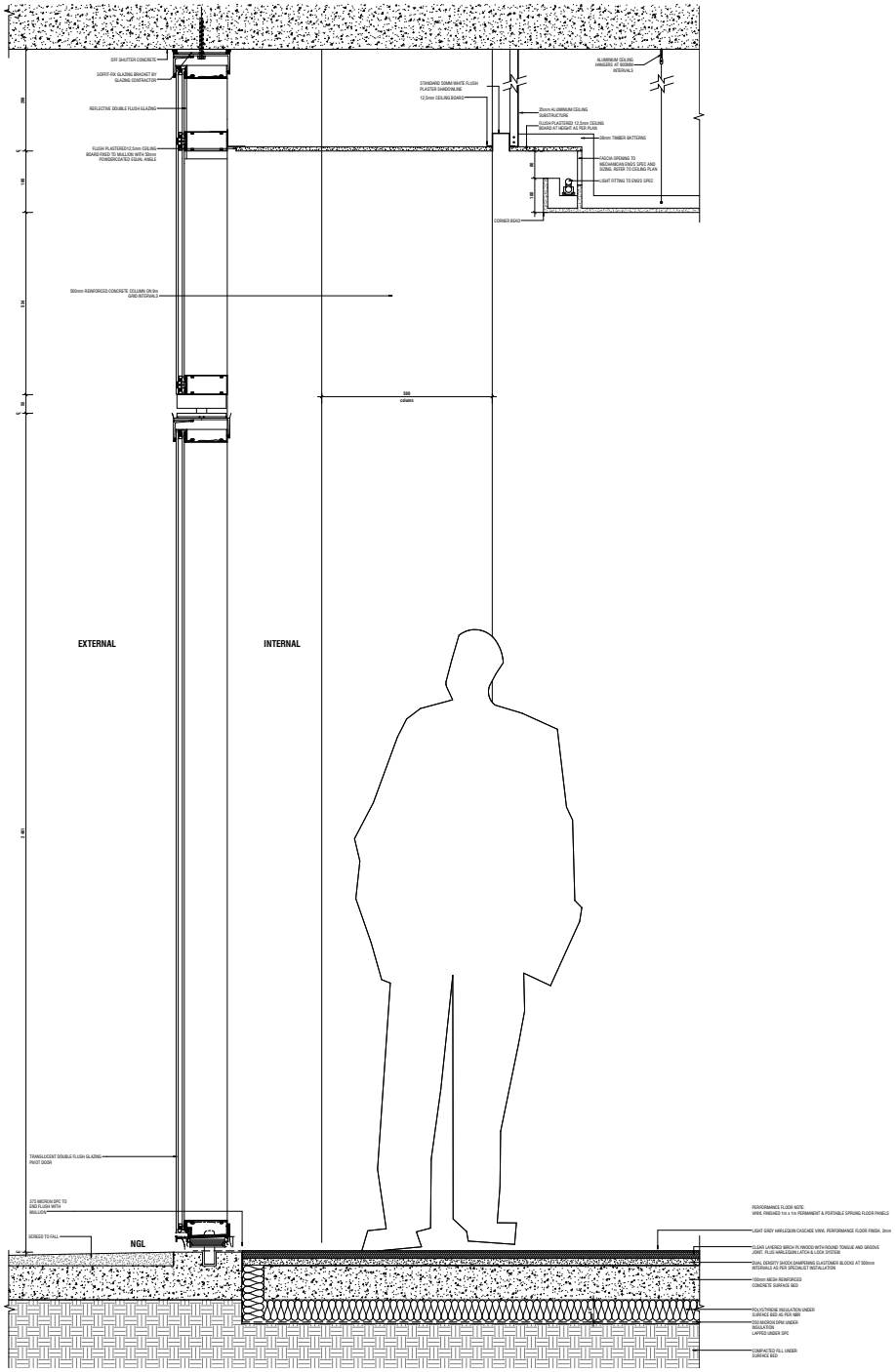


Figure 9.109
(Author, 2016)

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9.9.1.2_Final Canopy Walk Detail

[DEVELOPED FOR FINAL SECTION]

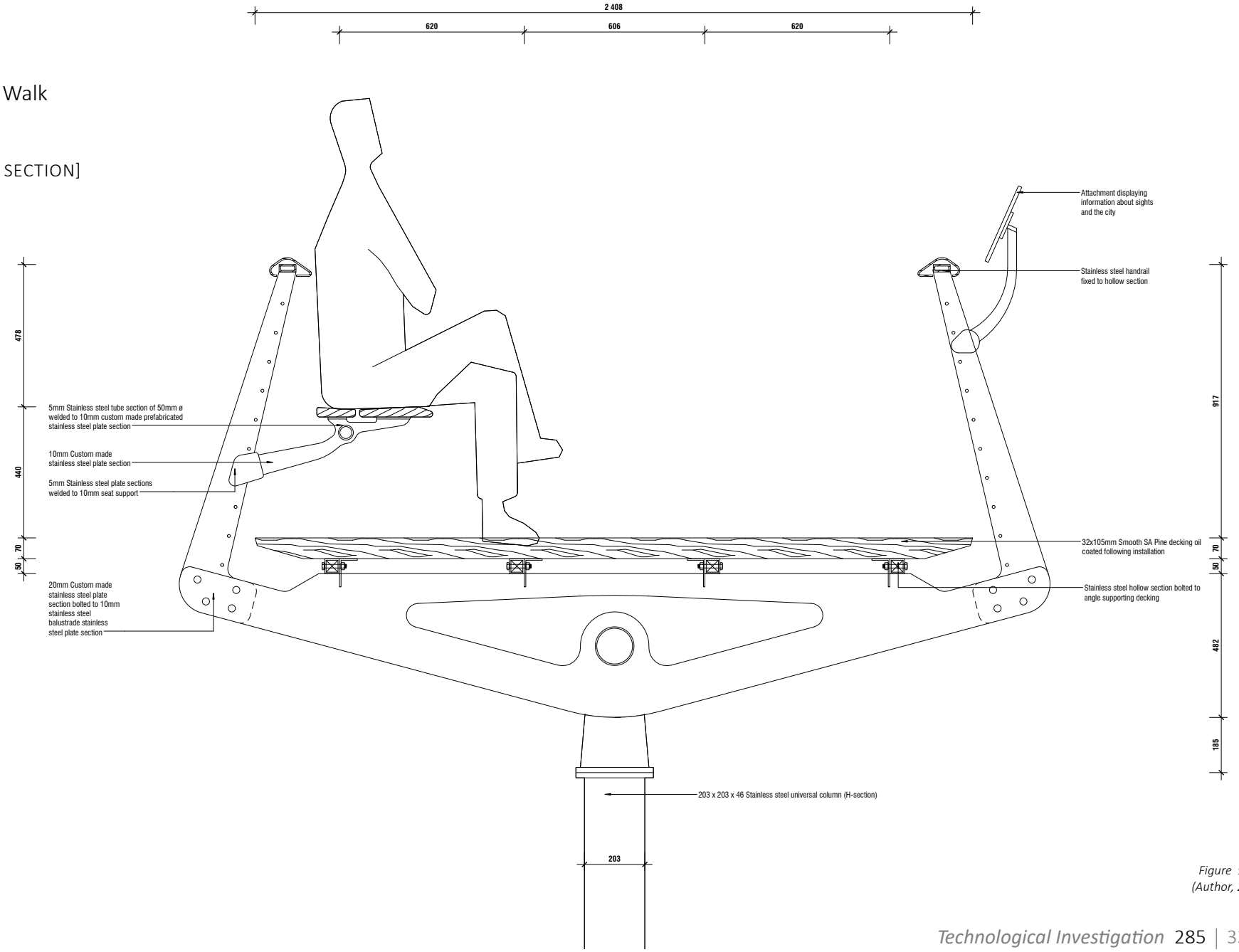


Figure 9.110
(Author, 2016)

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9.9.1_ DETAIL 2 _ STEREOTOMIC COMPONENT
THE LIVING ROOF

9.9.2.1_Preliminary Intensive Green Roof Detail

[DEVELOPED FOR ITERATION 2]

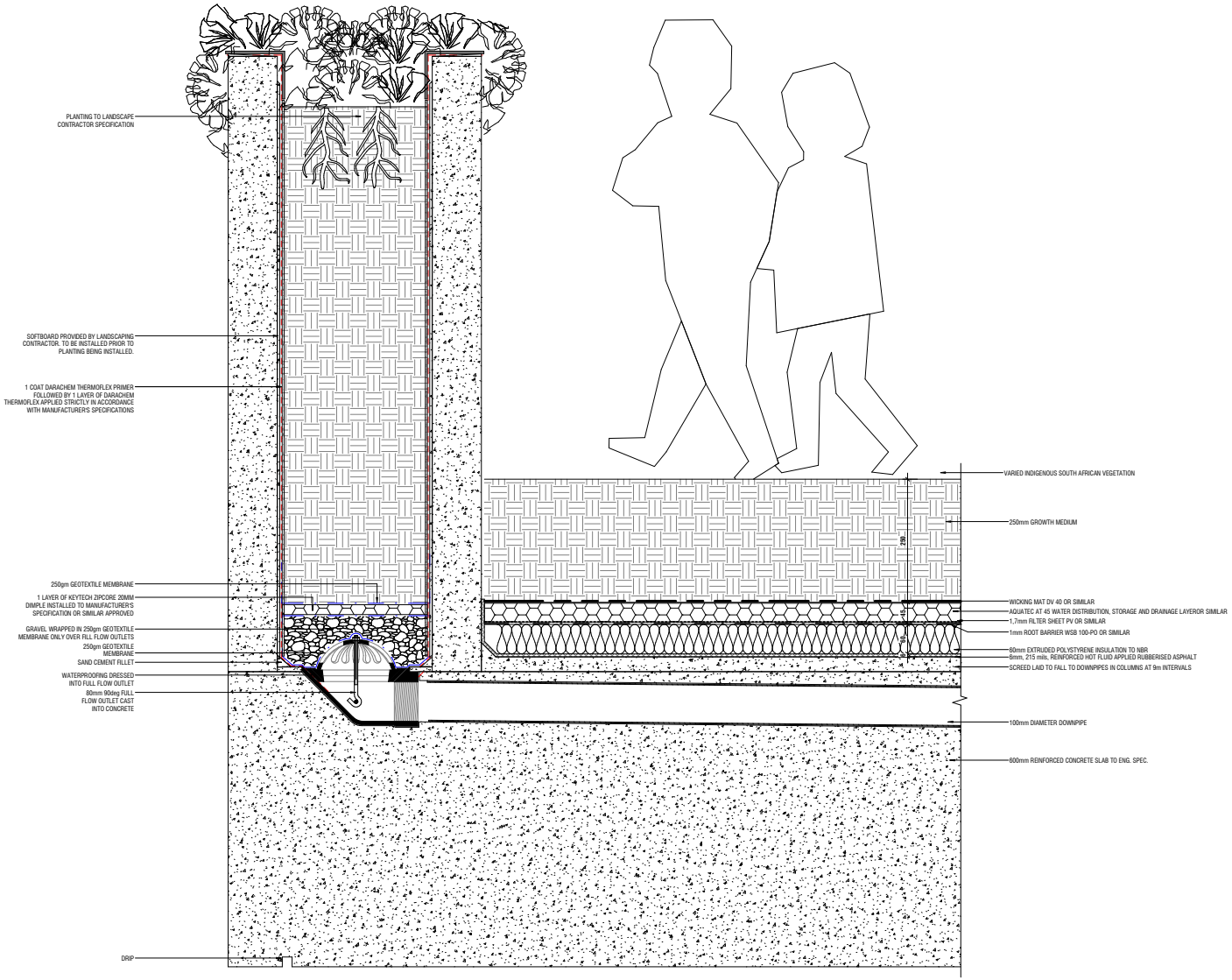


Figure 9.107
(Author, 2016)

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9.9.2.2_Final Intensive Green Roof Detail

[DEVELOPED FOR FINAL SECTION]

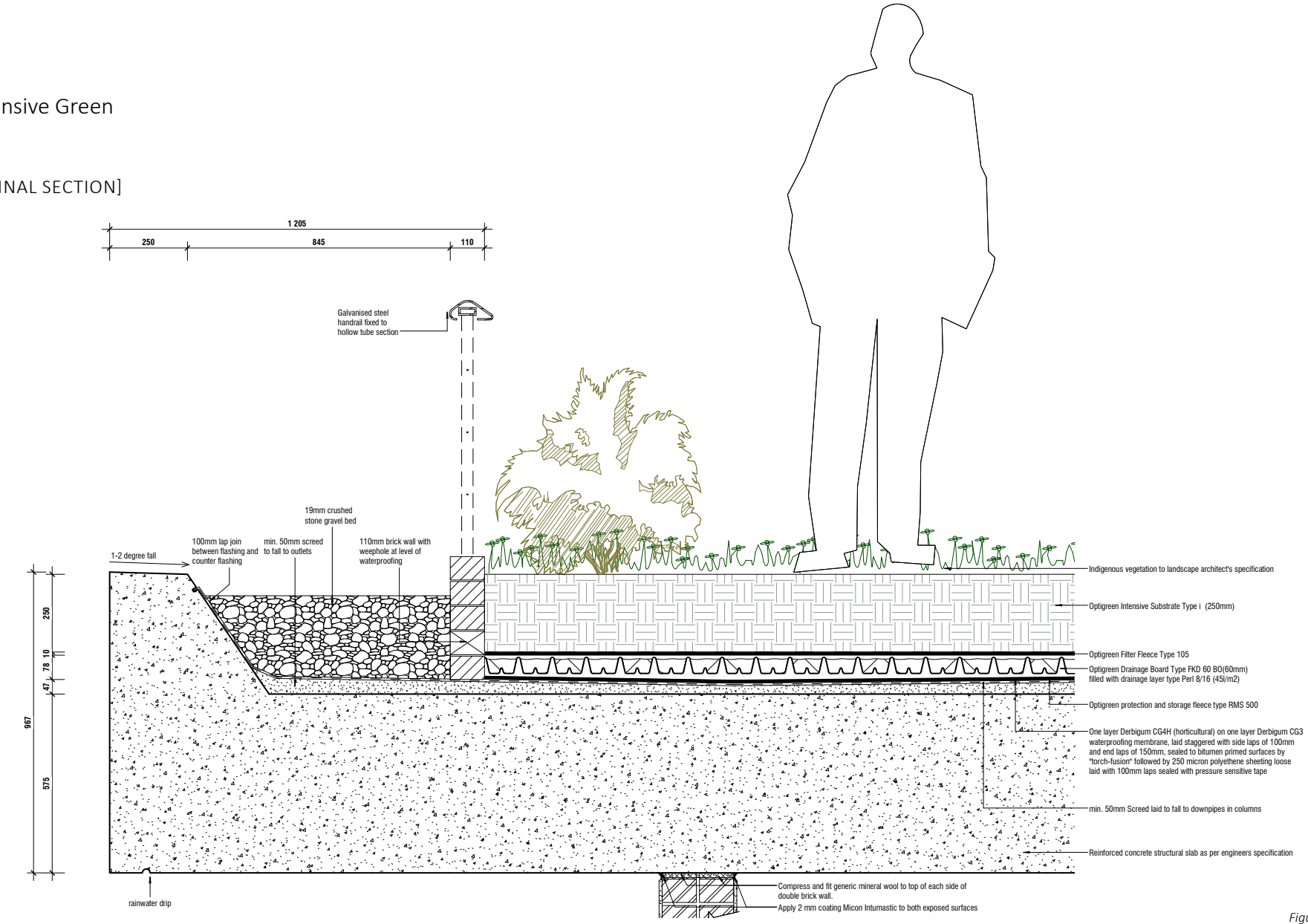


Figure 9.108
(Author, 2016)

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9.9.3_ DETAIL 3 _ STEREOTOMIC / TECTONIC COMPONENT
THE SKYLIGHT

9.9.3.1_Preliminary Raised Skylight Detail

[DEVELOPED FOR ITERATION 2]

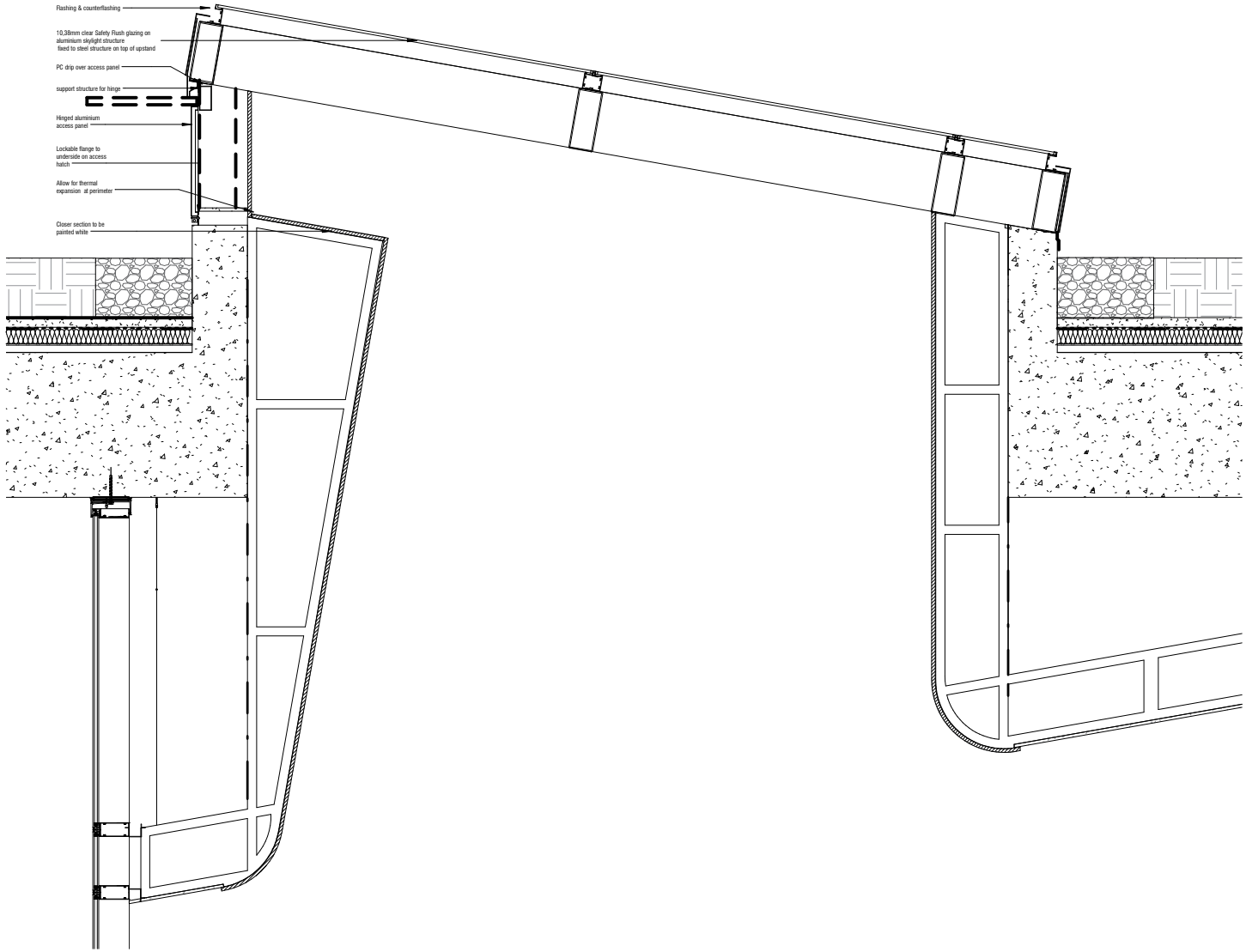


Figure 9.111
(Author, 2016)

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9.9.3.2_Final Walkable Skylight Detail

[DEVELOPED FOR FINAL SECTION]

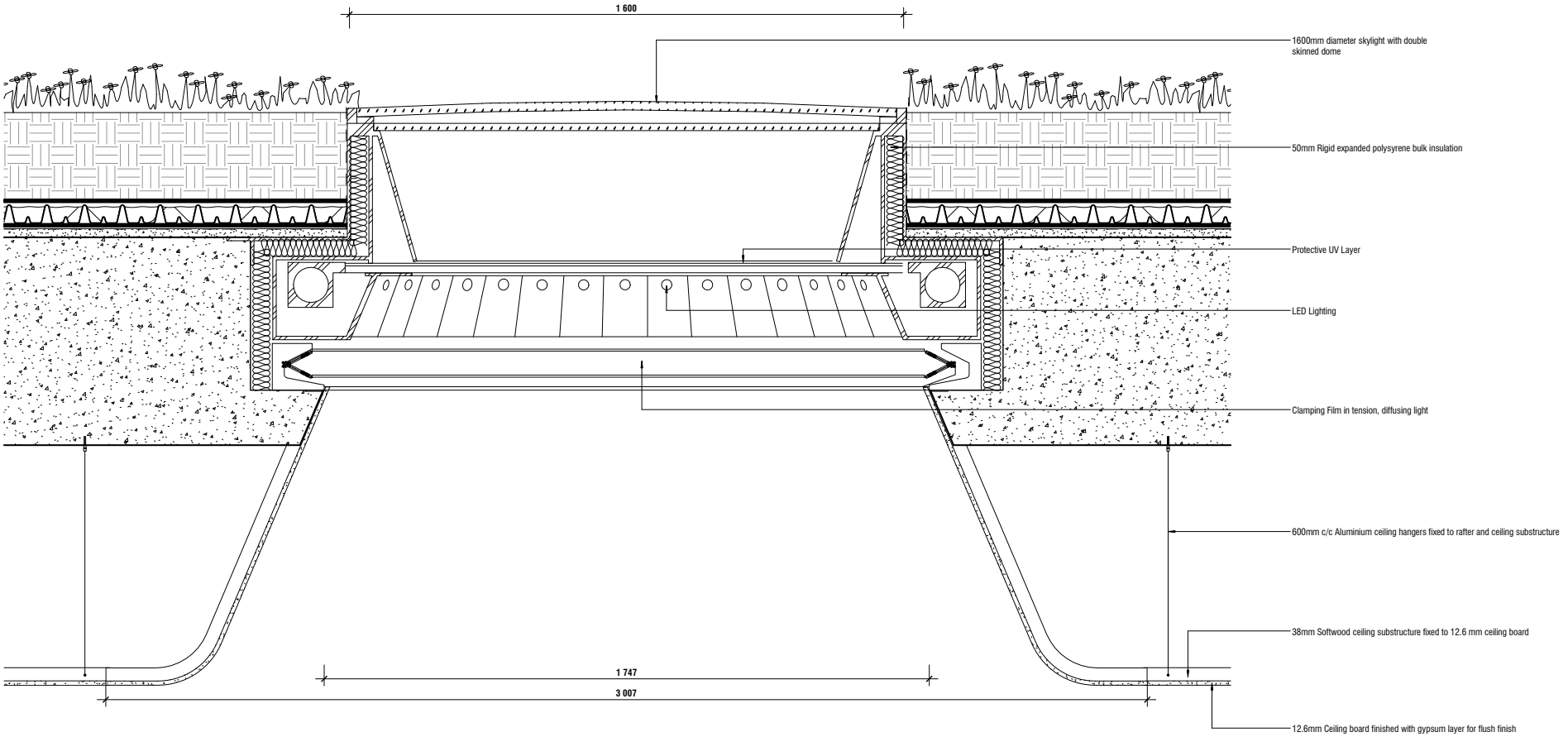


Figure 9.112
(Author, 2016)

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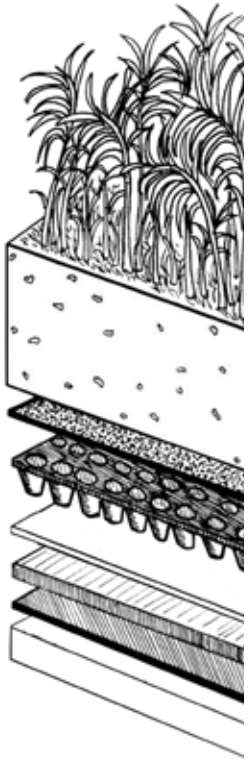


Figure 9.113
(Author, 2016)

9.10_SYNOPSIS

The technical resolution and sustainability investigation of the Creative Conservatory's architecture and systems enriched the project with detail and understanding, verifying the ability of the CC to confront the issues and intentions laid out in Chapter 1 and conclude with a holistic architectural intervention.

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Figure 10.1

CHAPTER 10

CONCLUSION

This final chapter concludes the exploration of the Creative Conservatory, a journey which the author hopes has impacted the reader's outlook on creativity, the important role it plays in placemaking and its contribution to a flourishing physical, social, and economic environment.

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10.1_JOHANNESBURG'S RENAISSANCE

CONCLUDING THE CREATIVE CONSERVATORY

The City of Gold is on the cusp of a renaissance, a great revival of art, literature, and learning (Oxford Dictionary, 2016). The objective of this dissertation was to undertake an architectural intervention capable of rejuvenating its tangible and intangible historical, cultural, social, and natural heritage to exemplify this unique identity of place, maintain relevance for future generations, and contribute to Johannesburg's renaissance, branding as the Cultural Capital, and the development of the creative economy.

The chosen site was the Joubert Park Conservatory Complex, the location of the beautiful, century old, yet abandoned and decaying, ornamental greenhouse. The importance of the Conservatory within its context waned as its function was no longer relevant, resulting in the degeneration of its presence. When heritage fabric no longer contributes to its environment, it fades into obscurity. This dissertation considered the potential of heritage structures, such as the Conservatory, to be reinterpreted to suit present needs and how architecture can express the dialogue between the past, present, and future to rejuvenate its context.

The dissertation methodology followed the creative process of Wallas (1926), starting by posing the problem to be investigated: how a spatial intervention could be mobilised to re-establish the forgotten significance of the site, and introduce a programme that would respect and enhance the heritage of the Conservatory and its cultural landscape to contribute to Joubert Park as well as the greater urban environment as the Cultural Capital. A preparation stage followed, analysing the context on a micro and macro scale from inner city Johannesburg to Joubert Park, and the Conservatory Complex. Then, the incubation period considered the theory of creative placemaking and adaptive reuse of heritage fabric, leading to further preparation and understanding of the latent potential in the Conservatory site. This allowed for the illumination stage to commence, in which a programme was established: the Creative Conservatory, a place for the cultivation of arts and media within the community. The final stage, verification, developed an architectural intervention which considered all previous steps to generate a solution to the problem posed. The design exploration and further technical investigation resulted in a project which responds to its context and is able to create spaces which stimulate networking and engagement between the creative industries and facilitate various levels of creative expression. This, in turn develops Johannesburg's creative economy and asserts its identity as the Cultural Capital of South Africa.

The Creative Conservatory is a contextual response to the tangible and intangible heritage of the Conservatory and Joubert Park, introducing an architectural intervention which is relevant for the current community but respects heritage significance. The intangible heritage of the Conservatory as a place of cultivation inspired the programmatic response, and the tangible architectural language of the structure drove the tectonic concept. As such, the project provides a good precedent for the wider discipline of adaptive reuse in heritage architecture.

The dissertation's extensive investigation and application of creative placemaking in Johannesburg contributes to the discipline of architecture by exploring the ability of arts and culture to shape place. This study is especially relevant as Johannesburg endeavours to become the Cultural Capital, as it highlights the potential to mobilise the creativity of the existing community by rethinking public space in the city.

The Creative Conservatory rises seamlessly from its Park landscape, framing the Conservatory and finding conceptual inspiration in its presence. Its architectural expression is appropriate within Joubert Park, responds to and is inspired by the Conservatory's tangible and intangible heritage, and is able to contribute to social, economic, and cultural development of inner city Johannesburg, giving momentum to the blossoming renaissance.

PERSONAL REFLECTION

I have always been passionate about the arts, at school I studied fine art, specialising in oil painting, I starred in musicals and theatre, and love reading and writing. The arts have always been my mode of expression, and in this dissertation I investigated the power of arts and culture in placemaking and architecture. As architects, we design places in which people can dwell. We cannot predict the nature of the dwelling, but we can provide spaces which inspire and stimulate certain activities. This project could be taken further, indeed it could spill out into the entire city. As I came to understand the multifaceted condition of Joubert Park, I realised that there are layers I have yet to discover, which would enrich the Creative Conservatory and the City. This year has been an exploration into the making of place that awakens the latent potential of the past to enrich the present and contribute to a thriving future, an investigation that I began as a student and will continue as an architect.

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FIN.

'Engagement with arts combines stretching oneself and focusing, feeling the senses, expressing emotion or helping to self-reflect. The result can be: to broaden horizons, to convey meaning, with immediacy and or depth, to communicate iconically so you grasp things in one without needing to understand step by step, to help nurture memory, to symbolise complex ideas and emotions, to see the previously unseen, to learn, to uplift, to encapsulate previously scattered thoughts, to anchor identity and to bond people to their community or by contrast to stun, to shock by depicting terrible images for social, moral, or thought-provoking reasons, to criticise or to create joy, to entertain, to be beautiful. The arts can even soothe the soul and promote popular morale. More broadly expression through the arts is a way of passing ideas and concepts on to later generations in a (somewhat) universal language. To have these effects the arts have to be communicated. For these reasons the arts and their institutions are seen as lying at the core of culture...The best cities are ultimately experienced as living works of art.'

Charles Landry (2011, p. 22)
Creativity, Culture & the City – A Question of Interconnection



Figure 10.2
(Author, 2016)

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10.2_DOCUMENT COMMENTS

DESIGN EXAMINER
15 NOVEMBER 2016

Assessment of Dissertation Document
Candidate: Lisa Verseput
Title: The Creative Conservatory
External examiner: Daniel van der Merwe

Comments

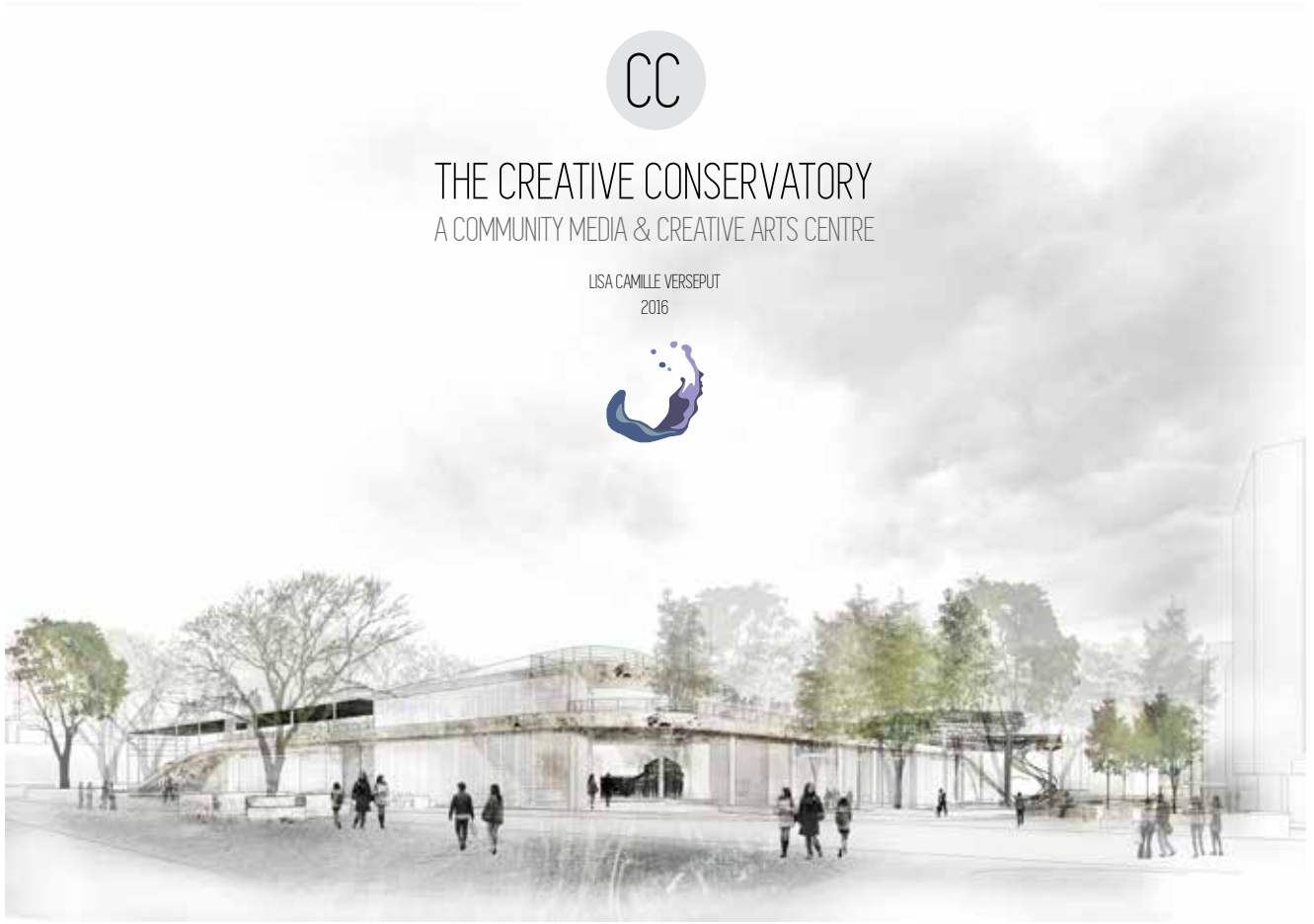
The dissertation is well composed, structured and edited. It communicates clearly and logically its intentions, approaches, explorations and the design investigation processes leading up to a design conclusion. Precedent case studies are well documented, lessons learned and applied as components of a design strategy is not always clear. Graphically the dissertation is extremely well supported. The theoretical propositions and analysis are mature and extensive. As precepts they create the necessary orientation and set a high level of expectation with regard to the final design conclusions. The bibliography is exhaustive. Overall the document is professionally well put together. The quest for an authentic Architecture is commendable. Theoretical discourses allow for the development of a strong architectural strategy. Design explorations communicate the search for relevance and allows for a good final conceptual conclusion. The motivations and development of programme activities and its intentions are well developed. Overall an excellent dissertation, the presentation of which I'm looking forward to.

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10.3_FINAL PRESENTATION

DESIGN & TECHNOLOGY EXAMINATIONS
21 NOVEMBER 2016

The following pages provide a summary of the work pinned up on the wall and presented in the final examinations, including models of various scales



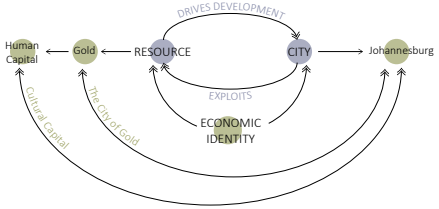
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THE CREATIVE CONSERVATORY
A COMMUNITY MEDIA & CREATIVE ARTS CENTRE

BACKGROUND

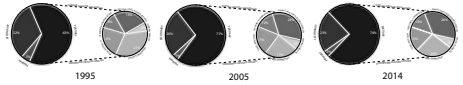
RETHINKING THE CITY OF GOLD

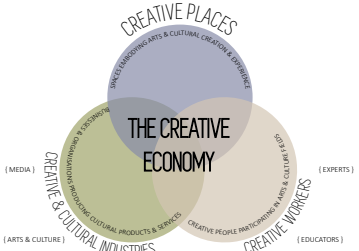






THE CHANGING ECONOMY OF JHB





THEORY



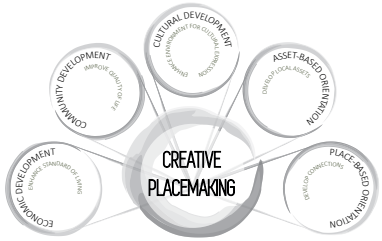
THE MAKING OF A GREAT PLACE



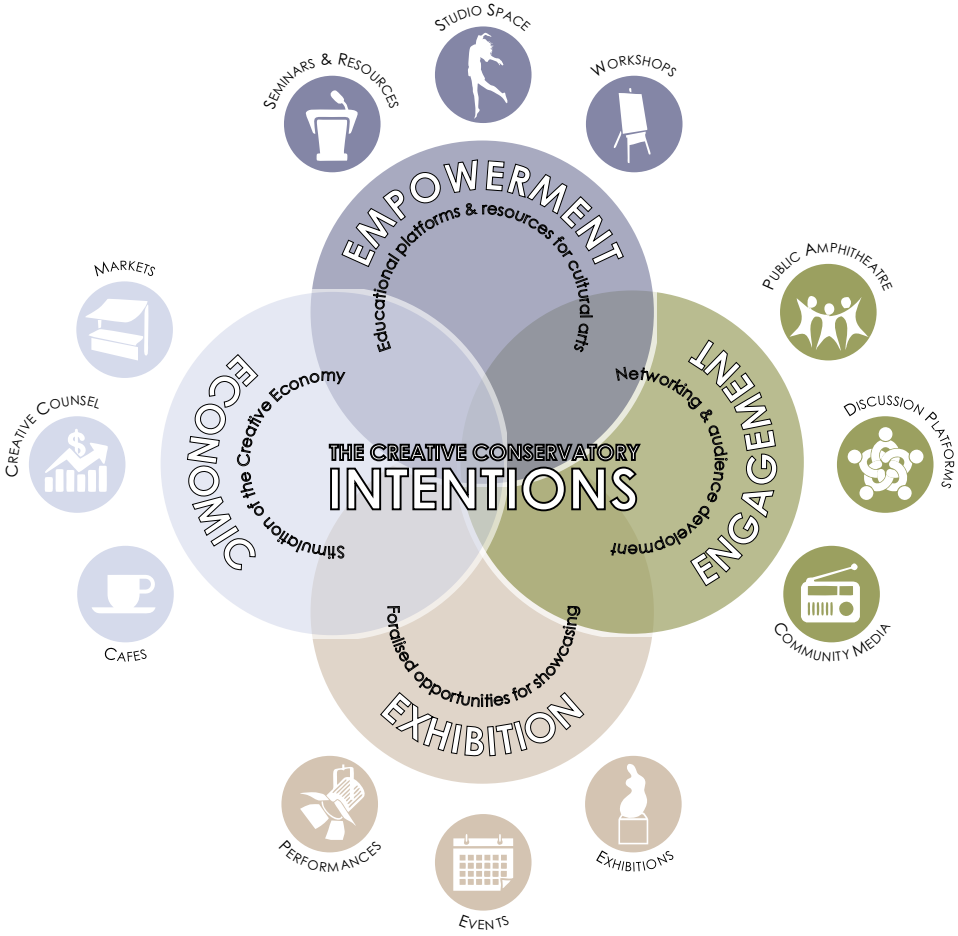
THE POWER OF 10

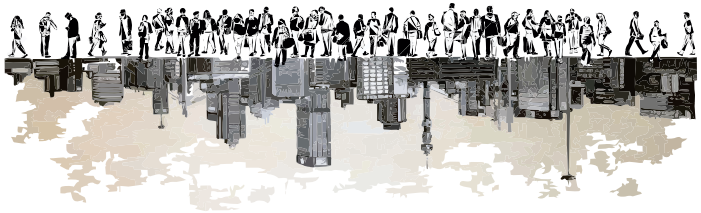


CREATIVE PLACEMAKING



PROGRAMMATIC INTENT





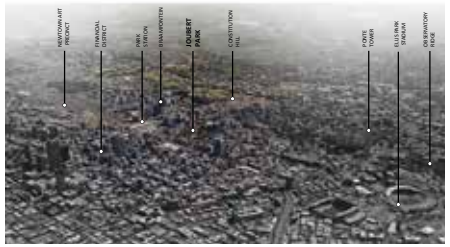
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THE CREATIVE CONSERVATORY

JOUBERT PARK

LOCALITY





JOUBERT PARK PALIMPSEST



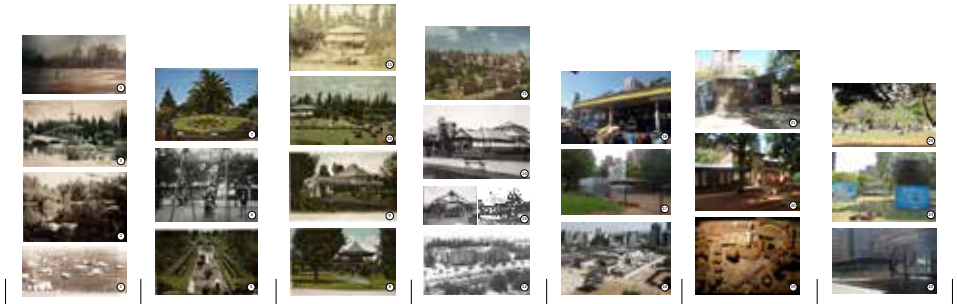
FADING MEMORY OF THE CONTEMPORARY CONDITION



LOCATING JOUBERT PARK



TIMELINE OF JOUBERT PARK



1887
– Mining Commissioner Jan Eloff applies for a park in Johannesburg (1), which is supported by the Executive Council, who granted Johannesburg what is today the 17.8 acres of ground that constitutes Joubert Park, named after Anglo Boer War general, P.L. Joubert

1888
– Kruger's Park, later Wanderers Grounds, established West of Joubert Park

1892
– A strip along the southern border of Joubert Park is taken for railway lines
– Joubert Park is laid out by G.S. Burt Andrews, who later became Town Engineer, after winning a competition
– Joubert Park is ploughed and planted, a pond (2) is formalised and a fountain (3) installed
– Donations of plants and trees come from all over the world, including the Kew Royal Botanical Gardens

1893
– A locust swarm devastates the flowering plants of the Park

1897
– Drought impacts the Park

1898
– Joubert Park is the 'beauty spot' of Johannesburg (5)
– Joubert Park acquired a conservatory from the Wanderers Club

1904
– Joubert Park is remodelled by A.H. Stirrat to include children's playgrounds (following the ground-breaking ethos of parks for people as opposed to railed off gardens) (6)
– The removal of Eucalyptus and Acacia trees and experimentation with indigenous trees and shrubs
– A floral clock and carpet garden (7)

1905
– City Council calls for tenders for a new iron conservatory in Joubert Park, as plants in the existing conservatory were suffering due to imperfect accommodation. The estimated cost is £1,000
– Kiosk is built in the Park, but is not successful due to its South orientation (8)

1906
March – City Council authorises construction of a propagating house
June – Cast Iron Victorian Conservatory was constructed (9)

1907
– Bandstand (10 & 11)
– Locust swarm devastates the Park

1909
– Snowstorm devastates the Park

1915 – The Johannesburg Art Gallery (JAG) opens on the southern area of the Park (12)

1938
July – City Engineer's Department allocated £10,000 for the construction of a new timber conservatory for Joubert Park from the specialist architectural firm Messrs. Richardson & Co. Ltd, London

1939
– Construction commenced on the site of the existing Victorian Conservatory, which was simultaneously demolished (13)

1940
– New conservatory is completed (14)
– JAG extension of west and east wings (15)

1986
– Front steps of the conservatory remodelled into a ramp
– JAG addition, Meyer Pienaar Architects (16)

1997
– Lapeng Child and Family Resource Service established (17)
– Park Station Taxi Rank completed (18)

2001
October – CBS Architects appointed to prepare a masterplan and design accommodation for the Greenhouse Project (19)
– The site is walled off from the Park, only accessible through a private gate

2002
– R3 Million is provisionally allocated to the restoration and conversion of the Conservatory by the National Lottery Distribution Trust Fund

2003-2005
– Planting is removed
– Existing steel columns are replaced due to excessive and dangerous corrosion
– Sandblasting of the timber frame
– Existing glass is removed
– Removal of window sections for restoration offsite
– Damaged or rotting timber to be replaced with new sections of Rhodesian teak
– Teak frame is painted white
– All steel members are taken offsite for restoration and cleaning

2004
– Earth Building Completed (20)
– Recycle Centre Completed (21)
– Entrance Completed

2007
– BRT Stop Completed (22)

2010
– Joubert Park is a Fan Park for the 2010 Soccer World Cup (23)

2016
– Joubert Park today is at risk of becoming a taxi storage lot (24)

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THE CONSERVATORY COMPLEX









DIAGRAMS


ZONING


SIGNIFICANCE & LANDMARKS


TREES

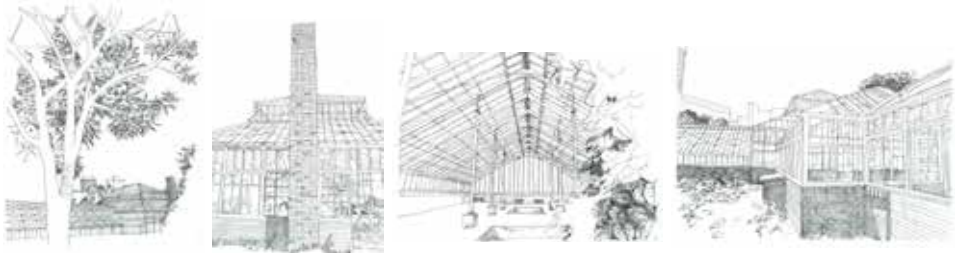

SITE GEOMETRY


ACCESS


MOVEMENT BOUNDARIES

HISTORIC DEVELOPMENT

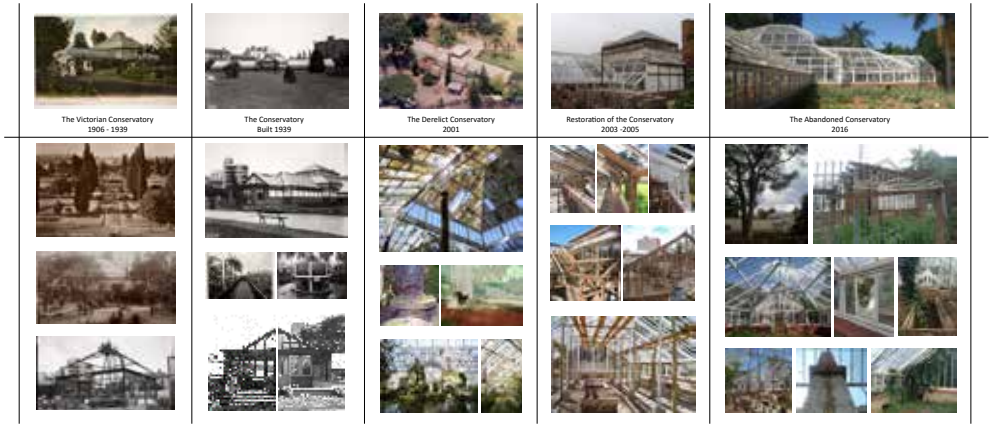




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HISTORY OF THE CONSERVATORY

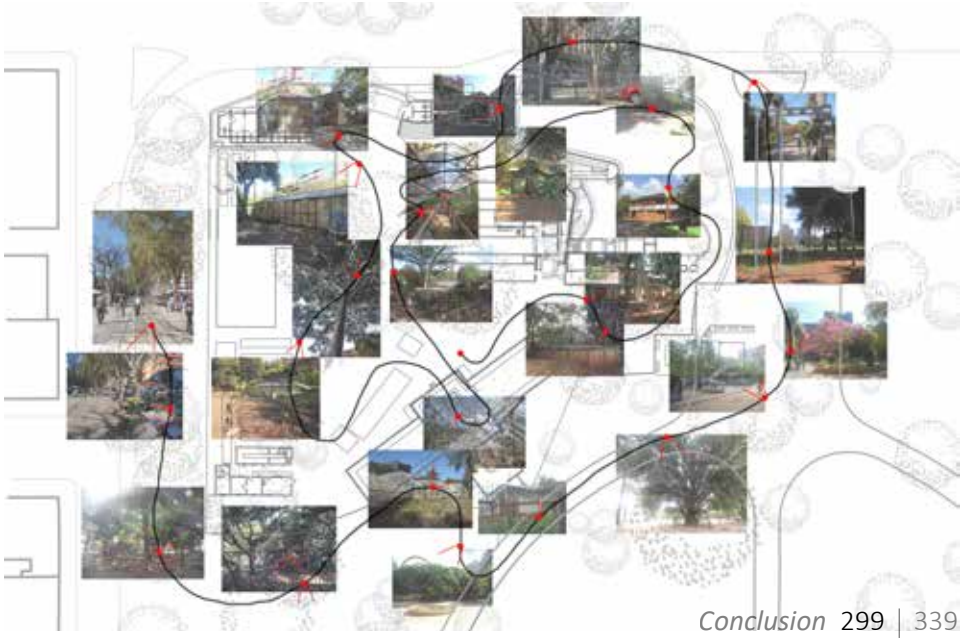
A TIMELINE OF THE CONSERVATORY'S TRANSITION INTO DECAY



SITE ANALYSIS



PHOTOGRAPHIC ROUTE



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THE CREATIVE CONSERVATORY

TRANSFORMING TYPOLOGY

con·ser·va·to·ry

1- Grander and more ornamental version of a glasshouse or greenhouse used for conserving plants
2- Public building devoted to the cultivation of, and instruction in, any branch of art



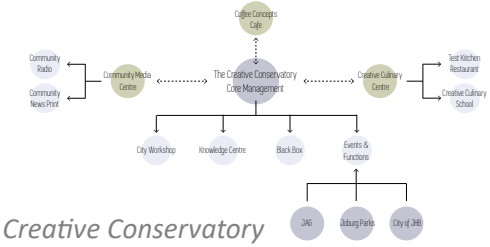




CLIENTS

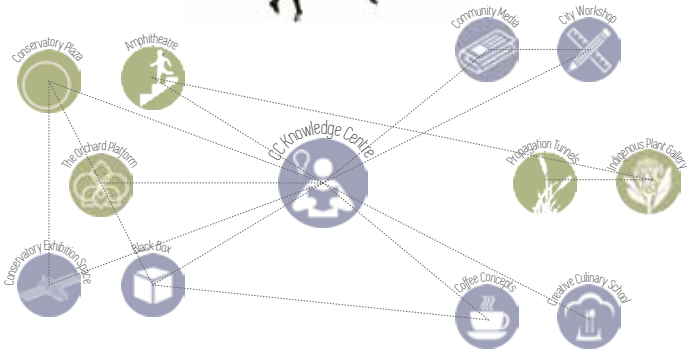
THE CREATIVE CONSERVATORY
A COMMUNITY MEDIA & CREATIVE ARTS CENTRE

MANAGEMENT



FACILITIES





EVENTS

VISUAL ARTS



MUSIC





MARKETS



PERFORMING ARTS



POETRY & STORYTELLING

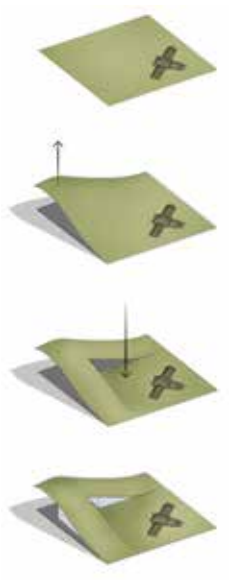


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THE CREATIVE CONSERVATORY
A COMMUNITY MEDIA & CREATIVE ARTS CENTRE

DESIGN CONCEPTS

ARCHITECTURE AS AN EXTENSION OF THE LANDSCAPE



THE CONSERVATORY AT THE HEART OF CULTIVATION

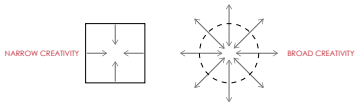


CONSERVATORY AS A GREENHOUSE



CONSERVATORY AS A CREATIVE HUB

NARROW TO BROAD CREATIVITY



THE CREATIVE CONSERVATORY
A COMMUNITY MEDIA & CREATIVE ARTS CENTRE

DESIGN DEVELOPMENT

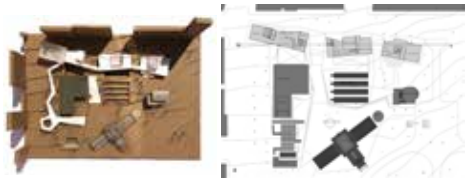
BRAINSTORMING

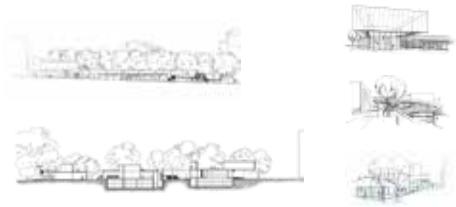


BASE DESIGN









ITERATION 1





ITERATION 2





ITERATION 3





ITERATION 4





ITERATION 5





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THE CREATIVE CONSERVATORY
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DESIGN INTENTION

ARCHITECTURE THAT:

INTEGRATES WITH THE PARK



IS INSPIRED BY HERITAGE



CONTRIBUTES TO DEVELOPMENT



HERITAGE RESPONSE

REIMAGINE



PAST

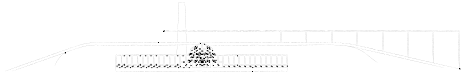


PRESENT

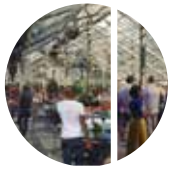


FUTURE

FRAME



CELEBRATE

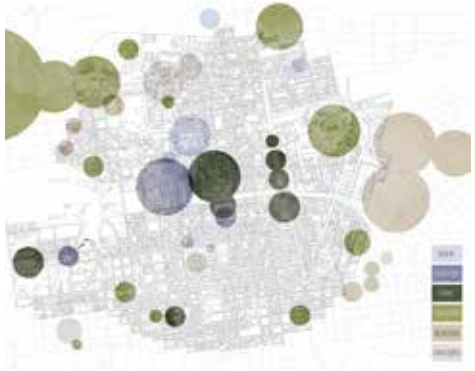




THE POWER OF 10

REGION _ INNER CITY JOHANNESBURG, PREVIOUSLY THE 'UITVALGROND'

A REGION HAS AT LEAST 10 NODAL DESTINATIONS



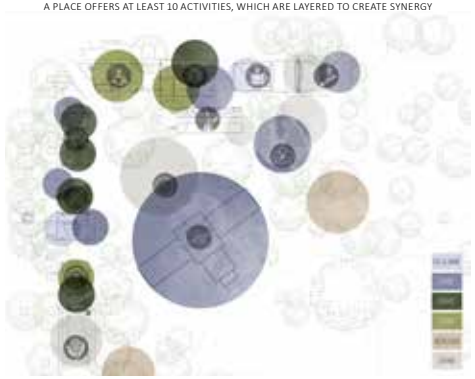
DESTINATION _ THE JOUBERT PARK PRECINCT

A DESTINATION HAS AT LEAST 10 PLACES



PLACE _ THE CONSERVATORY COMPLEX

A PLACE OFFERS AT LEAST 10 ACTIVITIES, WHICH ARE LAYERED TO CREATE SYNERGY



DIAGRAMS

PROGRAMME PLACEMENT



GEOMETRY & RATIOS



ACCESS



NEW & EXISTING ARCHITECTURE

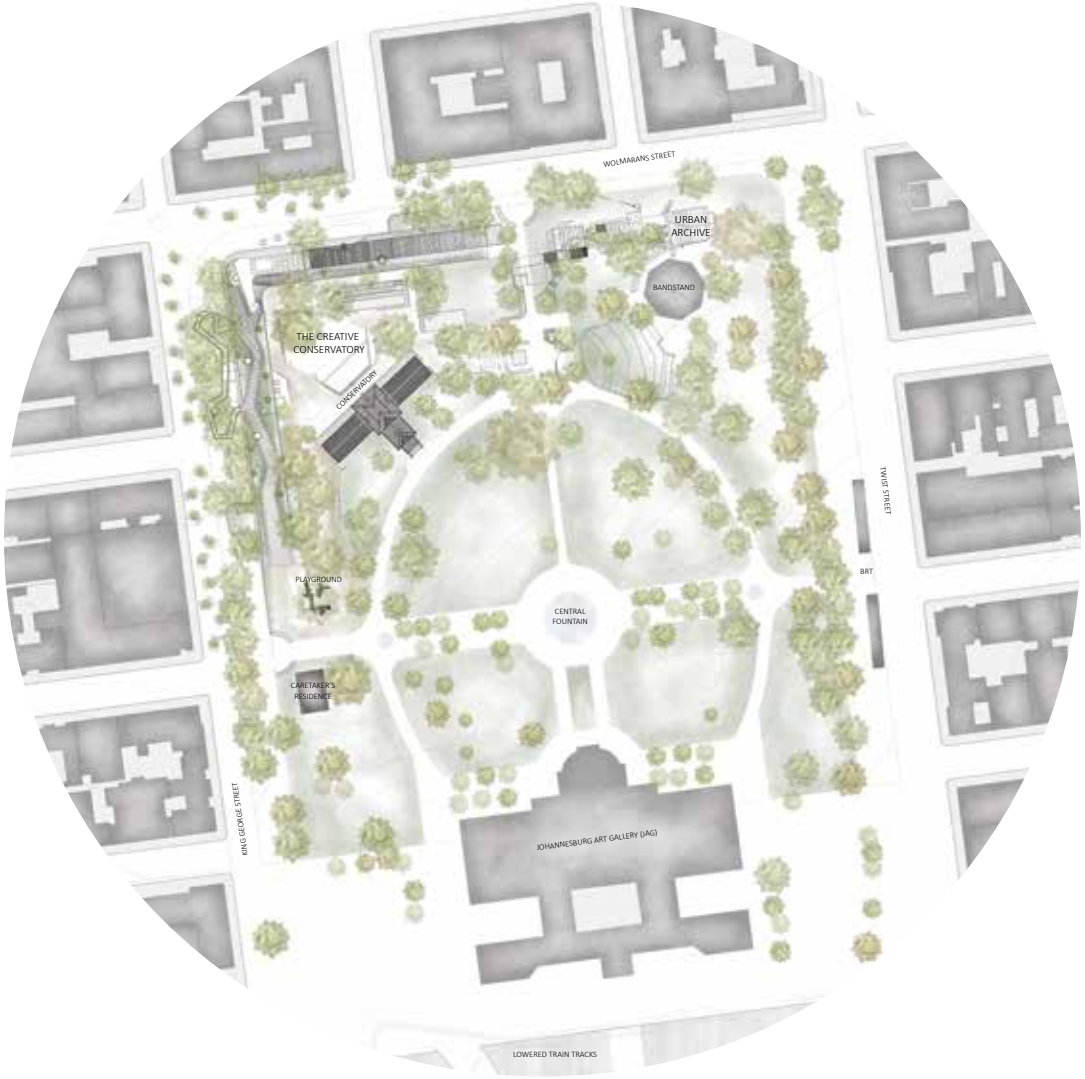


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THE CREATIVE CONSERVATORY

JOUBERT PARK SITE PLAN

SCALE 1:500







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REINVENTING THE CONSERVATORY
AS A CREATIVE EVENT



ART EXHIBITION



FASHION SHOW



LUNCHEON

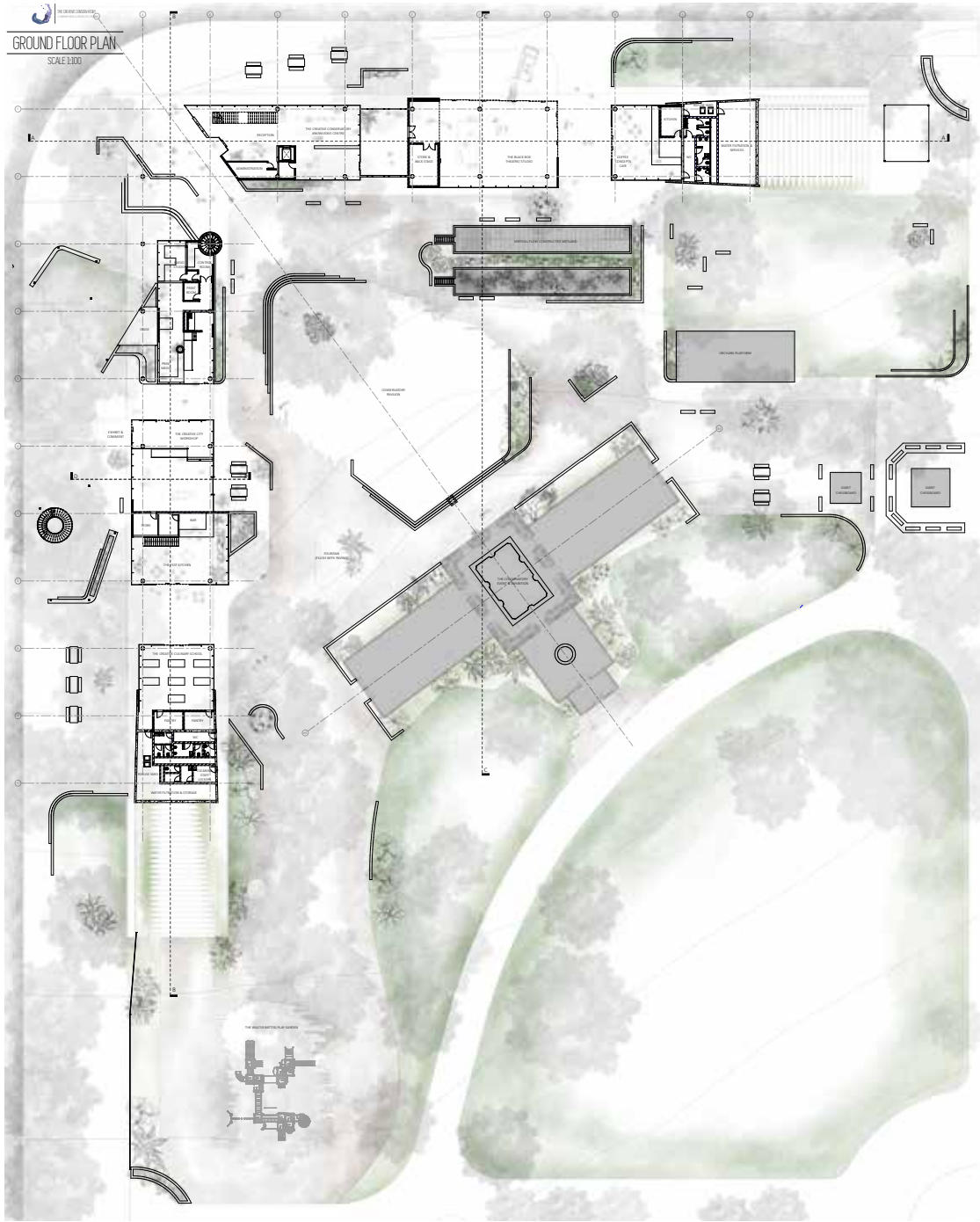


WEEKEND MARKET



THE CREATIVE CONSERVATORY
AS A CREATIVE EVENT

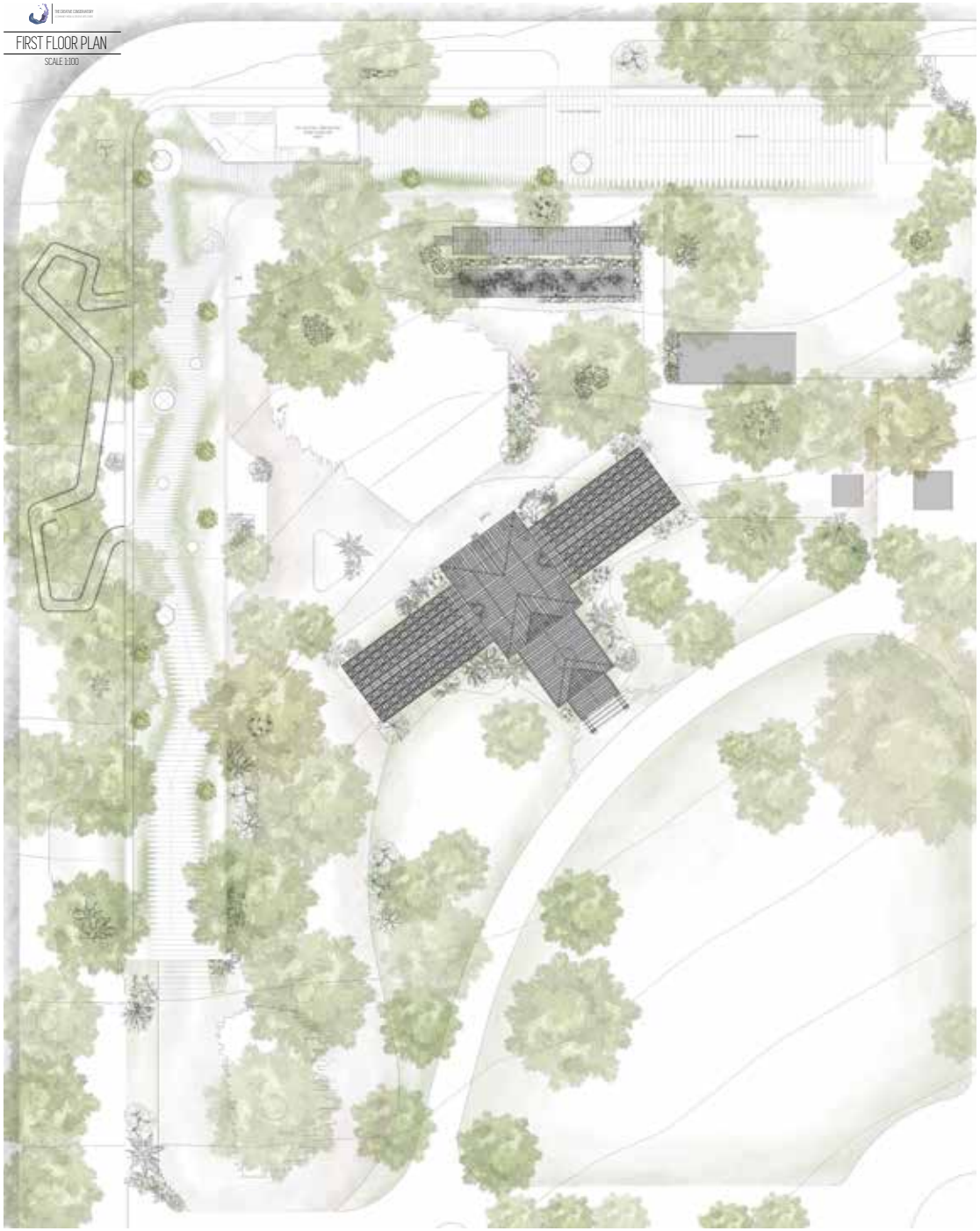
GROUND FLOOR PLAN
SCALE 1:100



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FIRST FLOOR PLAN

SCALE 1:100



ADAPTABLE SPACES

THE BLACK BOX



THEATRE



DANCE STUDIO

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SECTION A-A
SCALE 1:100



© University of Pretoria



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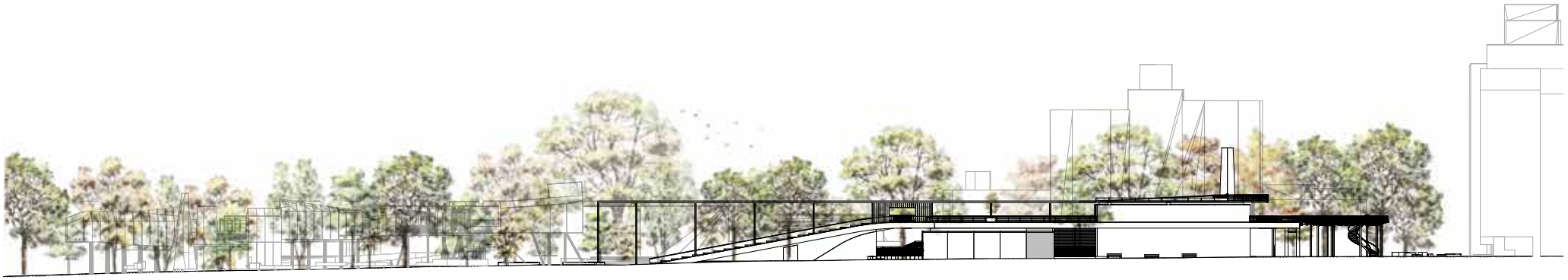


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THE CREATIVE CONSERVATORY
A COMMUNITY MEDIA & CREATIVE ARTS CENTRE

NORTH ELEVATION

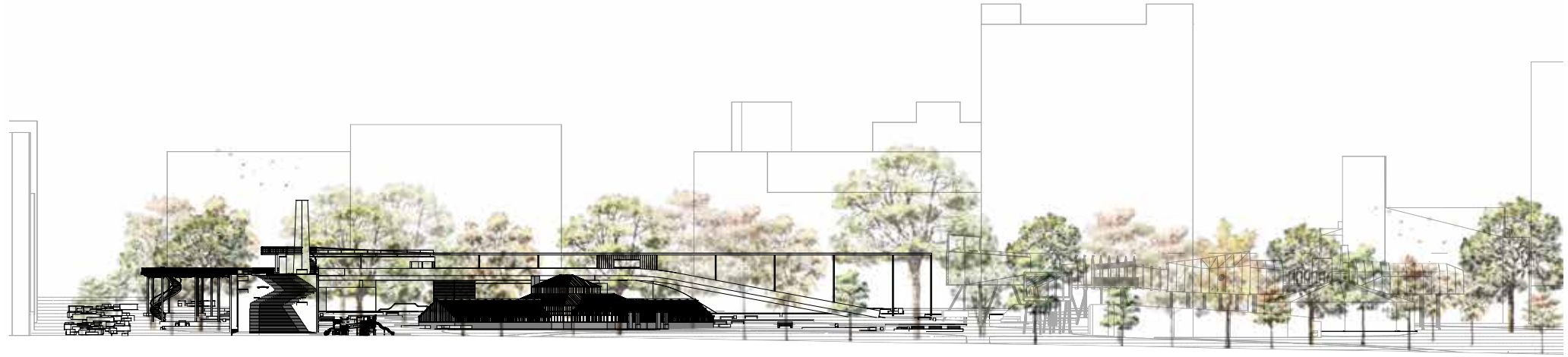
SCALE 1:200



THE CREATIVE CONSERVATORY
A COMMUNITY MEDIA & CREATIVE ARTS CENTRE

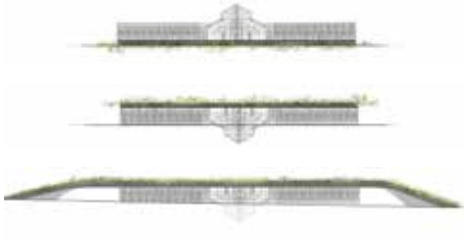
SOUTH ELEVATION

SCALE 1:200



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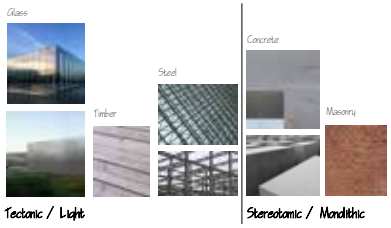
TECTONIC CONCEPT



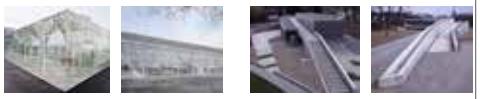
INFORMANTS



MATERIALITY



PRECEDENTS



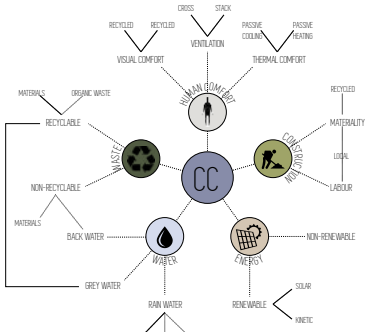
THE TECTONIC

Kanagawa Institute of Technology (KAIT)
Kanagawa, Tokyo, Japan
Junya Ishigami + Associates

THE STEREOTOMIC

Landesgartenschau / Landscape Formation One
Weil am Rhein, Germany
Zaha Hadid

SUSTAINABILITY STRATEGY



EXPLODED AXONOMETRIC

SCALE 1:300

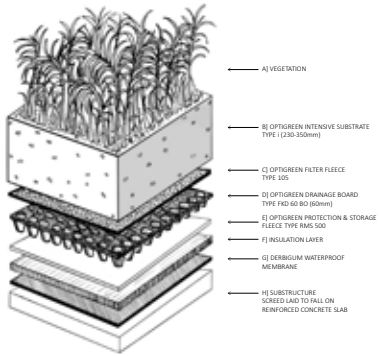


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THE CREATIVE CONSERVATORY
A COMMUNITY MEDIA & CREATIVE ARTS CENTRE

THE LIVING ROOF

COMPONENTS



SOIL STABALISATION



PRECEDENT

THE DBSA WELCOME CENTRE
MIDRAND, GAUTENG
HOLM JORDAAN ARCHITECTS
2010



PLANTING PALETTE

GRASSES



SHRUBS



TREES



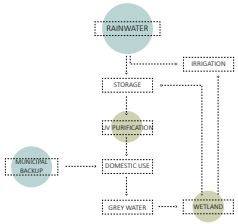
CLIMBERS

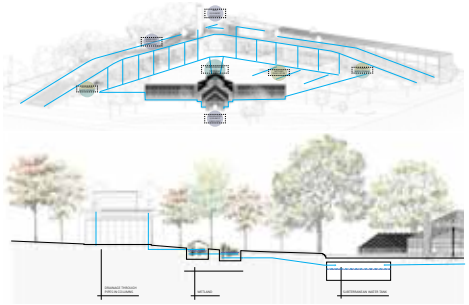


THE CREATIVE CONSERVATORY
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WATER SYSTEM

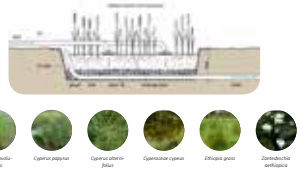
WATER STRATEGY





WETLAND FILTRATION

VERTICAL FLOW CONSTRUCTED WETLAND



SYSTEM COMPONENTS



PREFILTRATION + STORAGE + PUMPING + POST-TREATMENT + BACKUP INTEGRATION



LARGE BASKET FILTER

A large screened filter basket sits within a plastic body, and water flows through the inlet port and the basket and out the outlet port, filtering 900s of the rainwater. The filter is buried and accessible through a manhole cover.

RAINCAVERN

An underground storage system has been selected as it is unobtrusive and unaffected by freezing weather. The underground tank's cool, dark conditions prevent algae and microbial growth. The 'RainCavern' is an underground water storage system consisting of modular plastic elements wrapped in waterproofing and backfilled with earth. The modules are easy to assemble and can be manipulated to for any site size or depth. Each module creates a void space capable of storing 200L. The modular design also creates a cellular traffic and are easy to inspect and clean.

SURFACE PRESSURE PUMP

The pump serves as a complete water delivery system operating any irrigation as well as transferring water from the basins to the above storage tanks.

SEDIMENT FILTERS & UV STERILISATION

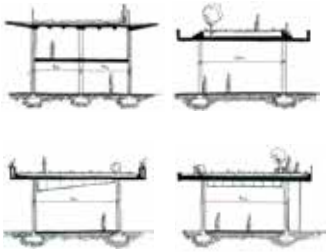
Rainwater that has been prefiltered can be used for landscape irrigation and exterior applications, but needs to be treated for use within the building. A sediment filter will remove any suspended solids and an ultraviolet sterilizer disinfects the water.

DIRECT BACKUP

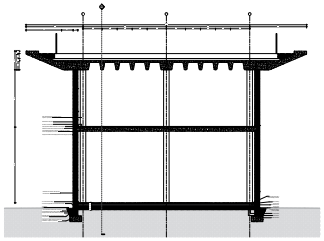
A motorized three-port valve connects the rainwater and municipal backup water supplies to the plumbing system. The valve is connected to the rainwater supply by default, but switches to the backup supply if the tank reaches a pre-set low.

SECTION DEVELOPMENT

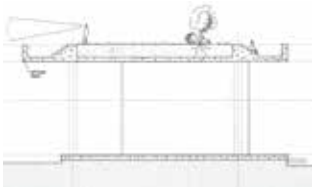
DIAGRAM DEVELOPMENT



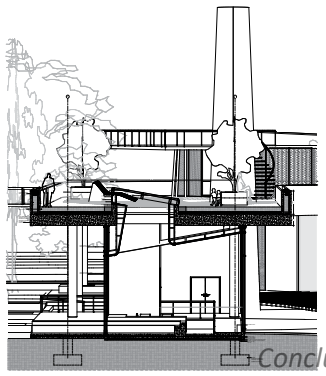
BASE DESIGN



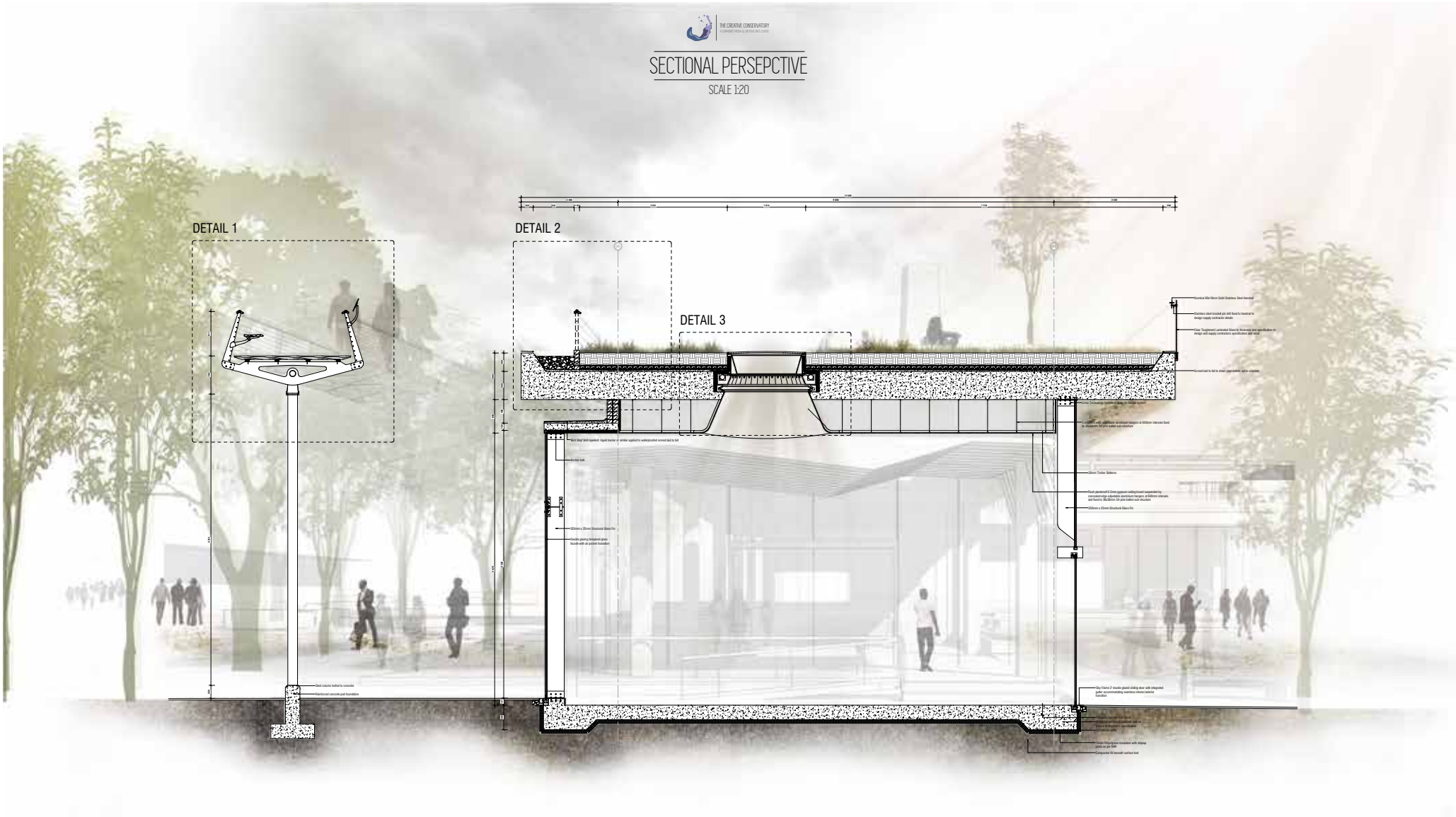
ITERATION 1



ITERATION 2



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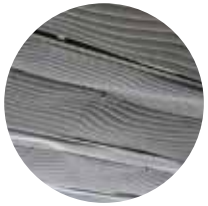


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PASSIVE DESIGN

ACOUSTIC COMFORT

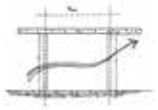


ACOUSTIC CEILING FINS OF THE WORKSHOP

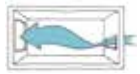
BASOTECT FOAM MELAMINE RESIN WITH A SOUND ABSORPTION COEFFICIENT OF 0.9

VENTILATION

CROSS VENTILATION



APERTURE SIZE FOR COOLING



APERTURE SIZE FOR COOLING

STACK EFFECT



DIAGRAMATIC SECTION THROUGH THE RECEPTION

THERMAL COMFORT

GEOTHERMAL PIPES



THERMAL MASS



LIGHTING



WEST FACADE

CENTURY OLD DECIDUOUS LONDON PLANE TREES LINE THE WESTERN FACADE. THEREFORE, THE FAÇADE IS WELL SHADED IN SUMMER AND HAS LIMITED DIRECT LIGHT IN WINTER.

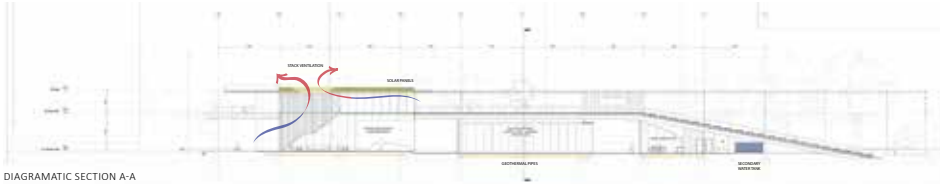


EAST FACADE

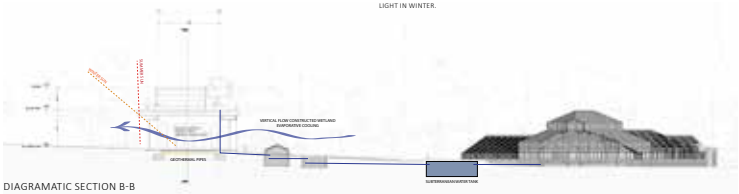
VERTICAL LOUVERS AND A LARGE OVERHANG ARE EMPLOYED TO SHADE THE EASTERN FAÇADE



KEY



DIAGRAMATIC SECTION A-A



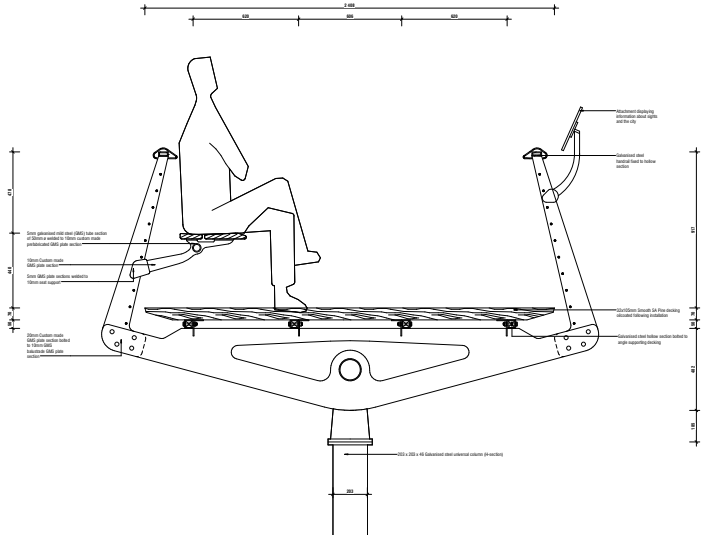
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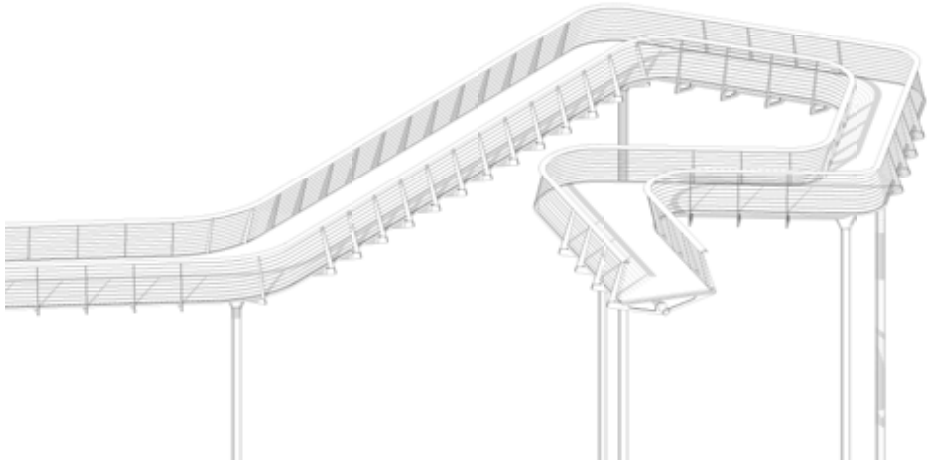
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DETAIL A_CANOPY WALK

SCALE 1:10



SCHEMATIC AXONOMETRIC

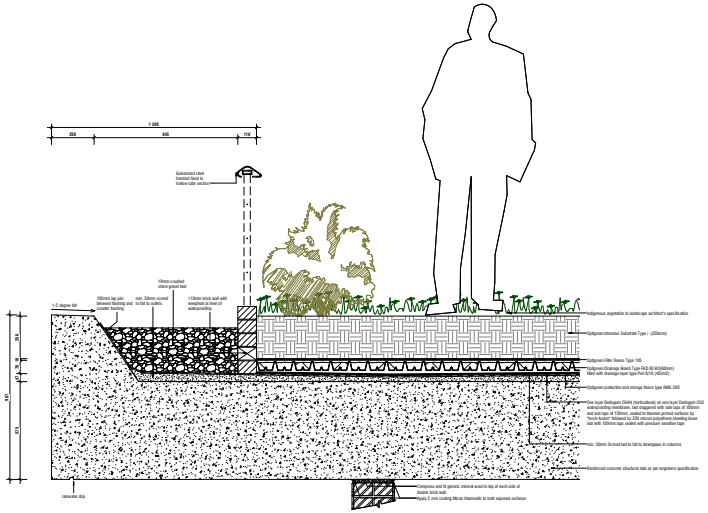


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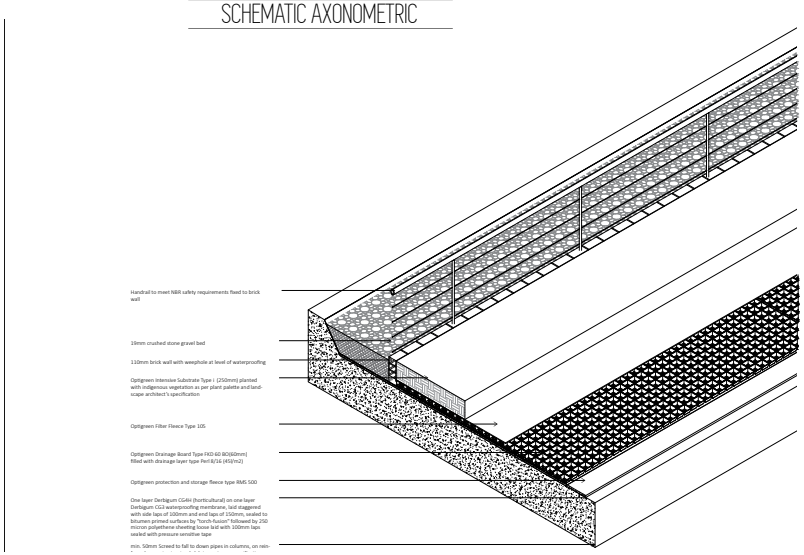
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DETAIL B_LIVING ROOF

SCALE 1:10



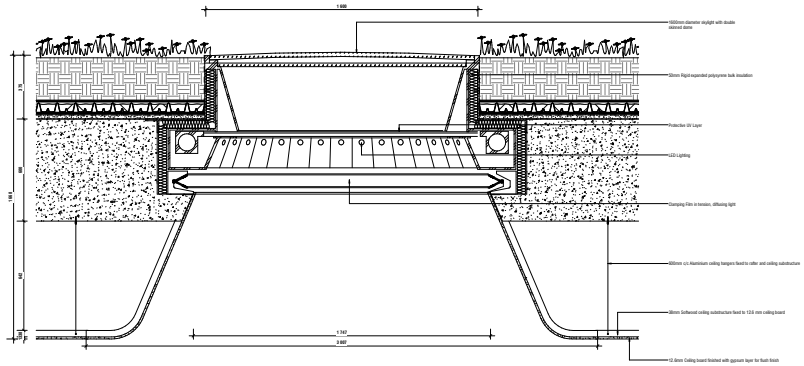
SCHEMATIC AXONOMETRIC



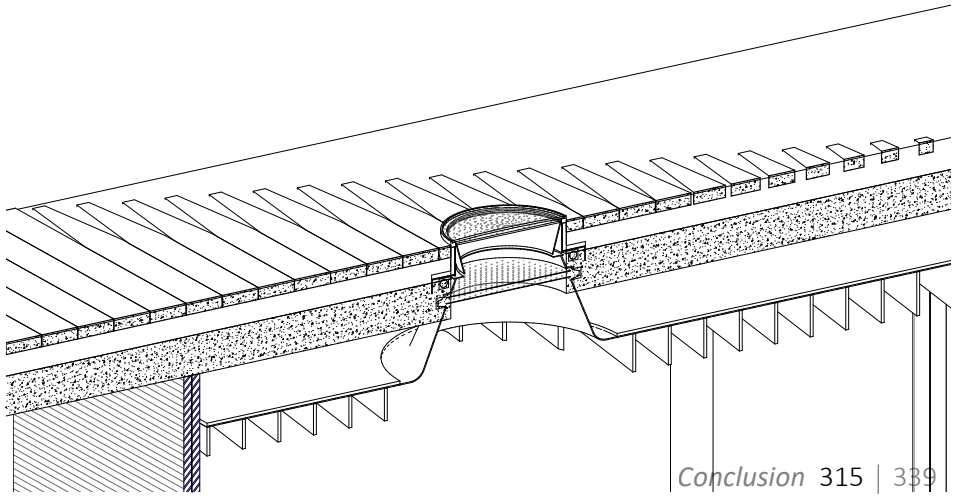
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DETAIL C_SKYLIGHT

SCALE 1:10



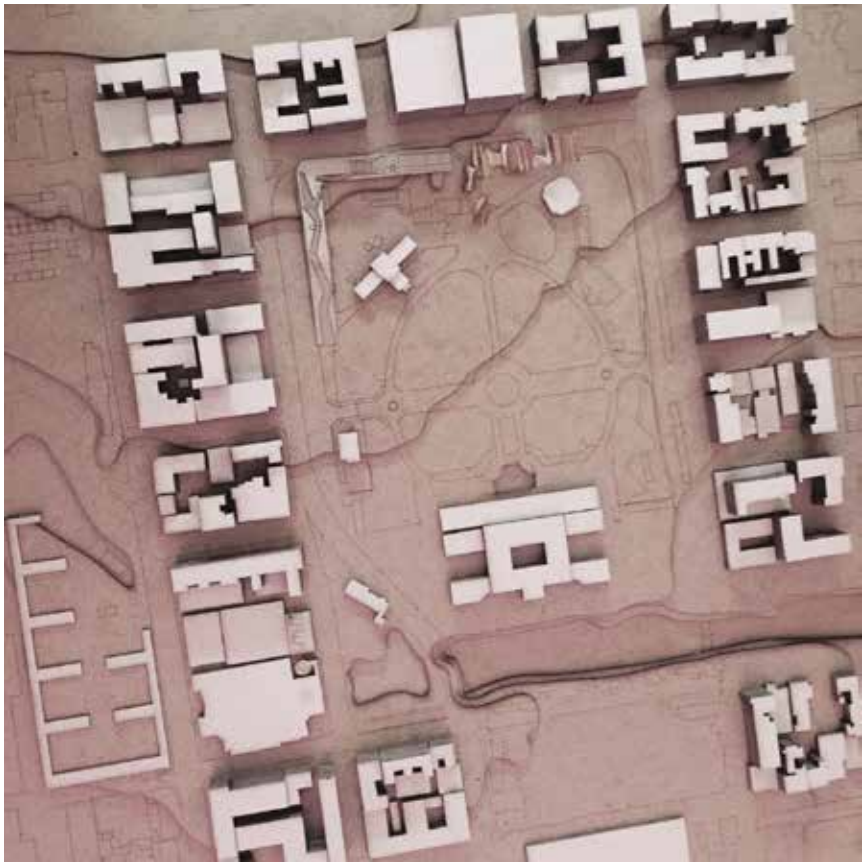
SCHEMATIC AXONOMETRIC

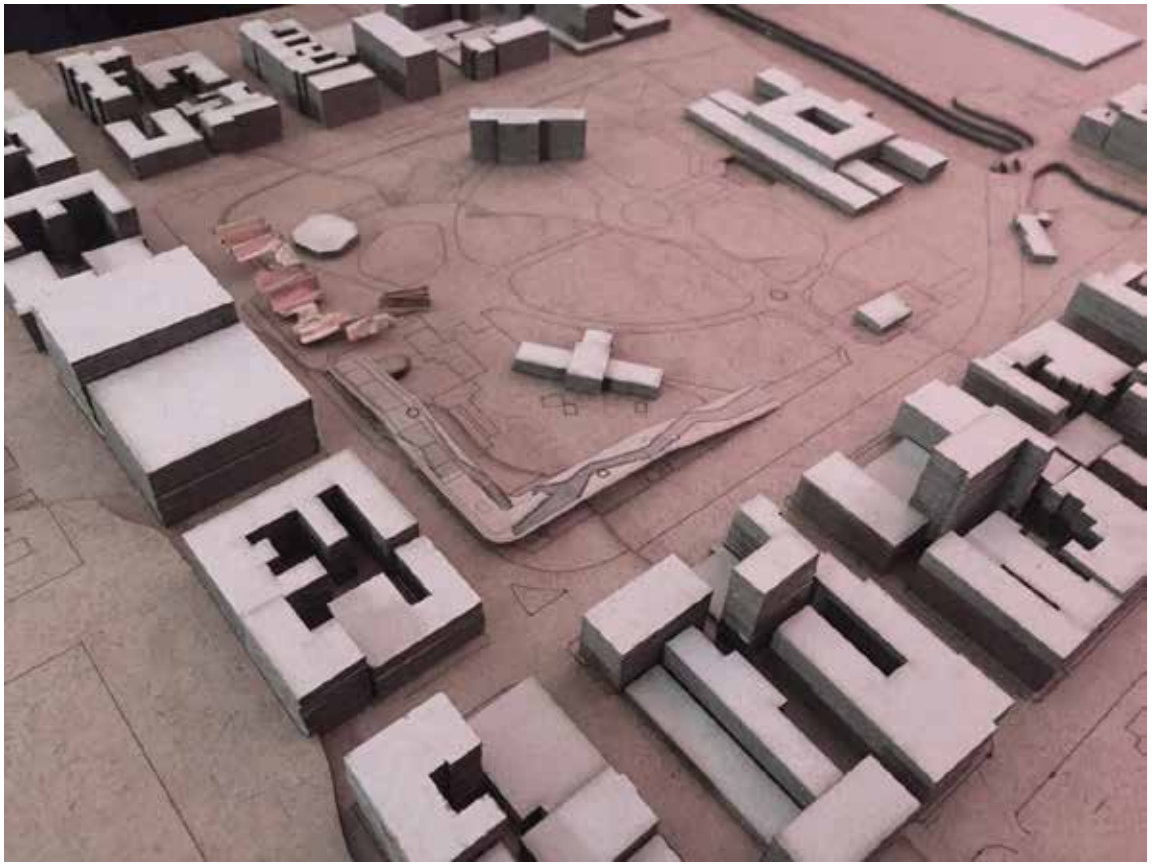


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JOUBERT PARK MODEL
SCALE 1:1000

Indicating the three interventions of the JPG and proximity to JAG

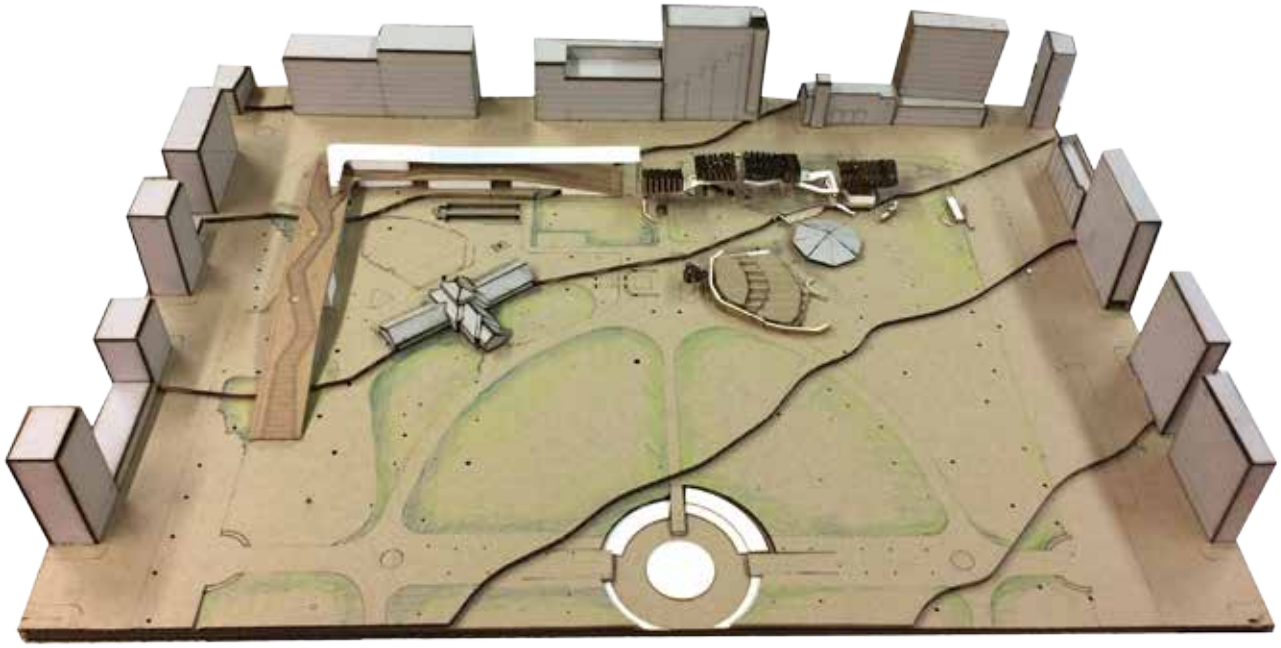




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NORTHERN JOUBERT PARK MODEL
SCALE 1:500

Indicating the relationship between the Creative Conservatory and the Urban Archive



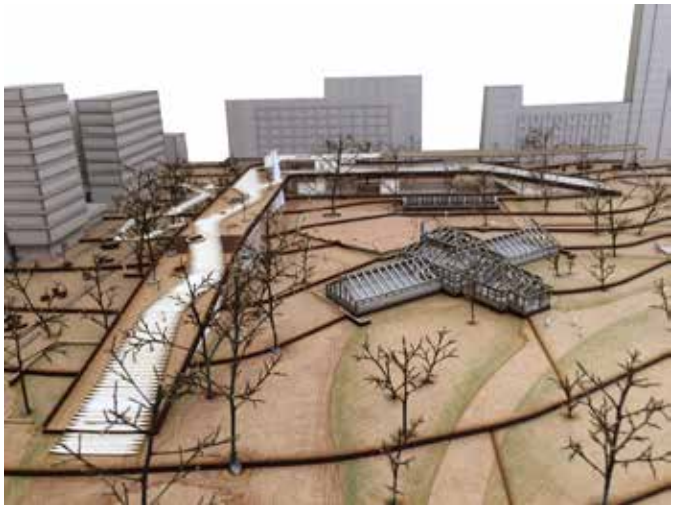


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CREATIVE CONSERVATORY MODEL
SCALE 1:200

Contextual model of the Creative Conservatory with existing infra-structure built in grey









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SECTIONAL DETAIL MODEL
SCALE 1:20

Sectional model cutting through each of the detailed elements: the canopy walk, walkable skylight, and the living roof







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21 NOVEMBER 2016



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APPENDICES

APPENDIX A

WATER CALCULATIONS

RAIN WATER HARVESTING DATA

DESCRIPTION	AREA (m^2)	RUNOFF COEFF. (C)
Green Roof	1795,516	0,2
Conservatory Roof	631	0,9
Roof	313,236	0,9
TOTAL AREA (A)	2739,75	
WEIGHTED C		0,43

TOTAL WATER YIELD

MONTH	AVE RAINFALL (m)	CATCHMENT YIELD (m^3) (Yield = PxAxC)	TOTAL WATER YIELD (m^3)	TOTAL WATER YIELD (litres)
January	0,13	148,87	148,87	148870,06
February	0,09	111,95	111,95	111950,28
March	0,09	107,19	107,19	107186,44
April	0,05	64,31	64,31	64311,86
May	0,01	15,48	15,48	15482,49
June	0,01	10,72	10,72	10718,64
July	0,00	4,76	4,76	4763,84
August	0,01	7,15	7,15	7145,76
September	0,03	32,16	32,16	32155,93
October	0,01	8,34	8,34	8336,72
November	0,01	13,10	13,10	13100,56
December	0,10	122,67	122,67	122668,93
ANNUAL AVE.	0,70	646,69	646,69	646691,52
MONTHLY AVE.	0,05	53,89	53,89	53890,96

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WATER DEMAND

	Litres Per Use	Uses/day	Days Per Week	Usage Per Month (litres)	Usage Per Month (m^3)	Annual Usage (m^3)
Shower	30	2	7	1680	1,68	20,16
Toilet	3	90	7	7560	7,56	90,72
WHB	0,5	90	7	1260	1,26	15,12
Cleaning	10	2	7	560	0,56	6,72
Dishwasher	15	2	7	840	0,84	10,08
Food Preparation	3	50	6	3600	3,6	43,2
WHB	2	30	6	1440	1,44	17,28
TOTAL				16940	16,94	203,28

GREY WATER

	Per Month (litres)	Per Month (m^3)
Shower runoff	1680	1,68
WHB runoff	2700	2,7
Dishwasher	840	0,84
Food Preparation	3600	3,6
	8820	8,82

WATER BUDGET

	Per Month (litres)	Per Month (m^3)
Excess Water	53890,96	53,89095991
Greywater	8820	8,82
	62710,96	62,71095991

PRIMARY TANK REQUIREMENT

	Demand/Month (m^3)
TOTAL	16,94
Tank Req.	11,676

SECONDARY TANK REQUIREMENTS

	King George St Block Demand/Month (m^3)
Ablutions	6,09
Restaurant	4,032
Cleaning	0,56
TOTAL	10,682
Tank Req.	21,364

	Wolmerans St Blocks Demand/month (m^3)
Ablutions	4,41
Café	1,428
TOTAL	5,838
Tank Req.	11,676

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APPENDIX B

ENERGY CALCULATIONS

LIGHTING REQUIREMENTS														
ROOM	DIMENSIONS			AREA	LUX REQUIRED	LUMENS	LIGHT TYPE	LUMENS/ UNIT	WATT/ UNIT	QUANTITY/ AREA	TOTAL WATT	AMOUNT OF ROOMS	HOURS USE/DAY	TOTAL POWER DRAW (Watt/Hours/ day)
	Width (m)	Length (m	height(m)											
INDOOR AREAS														
Entrance				63,0	75	4725,0	LED Globe	300,0	3,0	16	47,3	1	10	472,50
Reception				9,0	200	1800,0	LED Globe	300,0	3,0	6	18,0	1	10	180,00
Office				23,0	300	6900,0	LED Globe	300,0	3,0	23	69,0	1	10	690,00
Media Centre				72,0	300	21600,0	LED Tube	1120,0	8,0	19	154,3	1	10	1542,86
Kitchenette				47,0	150	7050,0	LED Tube	1120,0	8,0	6	50,4	1	10	503,57
Black Box				171	200	34200,0	Round Ultra-Thin Panel Light (LED	880,0	11,0	39	427,5	1	8	3420,00
BB Store				16,0	100	1600,0	LED Globe	300,0	3,0	5	16,0	1	1	16,00
Café				81,0	200	16200,0	LED Globe	300,0	3,0	54	162,0	1	12	1944,00
Kitchen				12,0	150	1800,0	LED Globe	300,0	3,0	6	18,0	1	12	216,00
WC				29,0	100	2900,0	LED Globe	300,0	3,0	10	29,0	1	12	348,00
Studio				17,0	300	5100,0	Round Ultra-Thin Panel Light (LED	880,0	11,0	6	63,8	1	12	765,00
Control Room				17,0	300	5100,0	Round Ultra-Thin Panel Light (LED	880,0	11,0	6	63,8	1	12	765,00
Sound Lock				2,0	150	300,0	LED Globe	300,0	3,0	1	3,0	1	12	36,00
Printing				11,0	200	2200,0	LED Tube	1120,0	8,0	2	15,7	1	2	31,43
Kitchenette				28,0	150	4200,0	LED Tube	1120,0	8,0	4	30,0	1	12	360,00
News Print Offices				60,0	300	18000,0	Round Ultra-Thin Panel Light (LED	880,0	11,0	20	225,0	1	8	1800,00
Workshop				124,0	300	37200,0	Round Ultra-Thin Panel Light (LED	880,0	11,0	42	465,0	1	8	3720,00
Store				12,00	100	1200,0	LED Globe	300,0	3,0	4	12,0	1	1	12,00
Culinary				68,00	200	13600,0	Round Ultra-Thin Panel Light (LED	880,0	11,0	15	170,0	1	3	510,00
Pantry				12,00	150	1800,0	LED Tube	1120,0	8,0	2	12,9	1	1	12,8571
Restaurant				80,00	200	16000,0	LED Globe	300,0	3,0	53	160,0	1	12	1920,00
Kitchen				31,00	150	4650,0	LED Tube	1120,0	8,0	4	33,2	1	12	398,5714286
WC				28,00	100	2800,0	LED Globe	300,0	3,0	9	28,0	1	12	336,00
Meeting Space				78,00	300	23400,0	Round Ultra-Thin Panel Light (LED	880,0	11,0				5	
Staff				16,00	150	2400,0	LED Globe	300,0	3,0	8	24,0	1	2	48,00
OUTDOOR AREAS														
Water Treatment				0,00	50	0,0		880,0	80,0	0	0,0	1	0	0,00
Garden				0,00	50	0,0	LED Landscape spotlight	800,0	10,0	0	0,0	1	12	0,00
														20047,79 W/day
														20,048 kW/day

Source: p372-p375

OUTDOOR LAMPS WITH OWN PV PANELS														
Outdoor Path to Entrance	13,0	30,0		390,00	50	19500,0	LED street lamp	1200,0	12,0	16	195,0	1	12	2340,00
Square	21,0	25,0		525,00	50	26250,0	LED street lamp	1200,0	12,0	22	262,5	1	12	3150,00

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ELECTRICITY USAGE						
Item/Appliance	Power draw per item (W)	Amount of appliances:	Total Power draw (W)	Average hours run time per week:	Total hours run time per week:	Watt-Hours per week:
Laptop	60	15	900	40	600	540000
LED Display 32"	50	5	250	12	60	15000
LED Display 42"	80	2	160	3	6	960
Computer server	400	1	400	168	168	67200
Laser Jet Printer	500	6	3000	5	30	90000
Projector	410	1	410	5	5	2050
Alarm System	40	6	240	98	588	141120
Wifi router	6	6	36	40	240	8640
Cordless Phone	2	6	12	40	240	2880
Instantaneous Water Heater	3	6	18	6	36	648
Coffee Machine	800	5	4000	10	50	200000
Microwave	800	5	4000	5	25	100000
Bar Fridge	77	3	231	10	30	6930
Fridge	200	3	600	10	30	18000
Dishwasher	1200	2	2400	15	30	72000
Stove / Oven	2000	4	8000	1	6	48000
					Total watt hours /week:	1313428

		Average W/hours per day
Appliances		187633
Lighting		20048
	TOTAL Wh/day	207681
	kWh/day	207.681

ANNUAL SOLAR POWER GAIN					
Month	Ave monthly sunhours	Power gain(kW)	Total Power Gain (KWh)	Total Power demand/ month (kW-hours)	Power Gain/Loss (kWh)
January	290	10,2	2958,0	6438,1	-3480,1
February	270	10,2	2754,0	5815,1	-3061,1
March	260	10,2	2652,0	6438,1	-3786,1
April	250	10,2	2550,0	6230,4	-3680,4
May	270	10,2	2754,0	6438,1	-3684,1
June	240	10,2	2448,0	6230,4	-3782,4
July	280	10,2	2856,0	6438,1	-3582,1
August	310	10,2	3162,0	6438,1	-3276,1
September	300	10,2	3060,0	6230,4	-3170,4
October	300	10,2	3060,0	6438,1	-3378,1
November	260	10,2	2652,0	6230,4	-3578,4
December	300	10,2	3060,0	6438,1	-3378,1
			33966,0	75803,4	-41837,4

PV PANELS				
Roof area (m2)	Tile area (m2)	No of tiles	Power gain/tile(W)	Total Power gain (W)
103,4	103,4	34	300	10200,0
		34		10200,0

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CC

THE CREATIVE CONSERVATORY

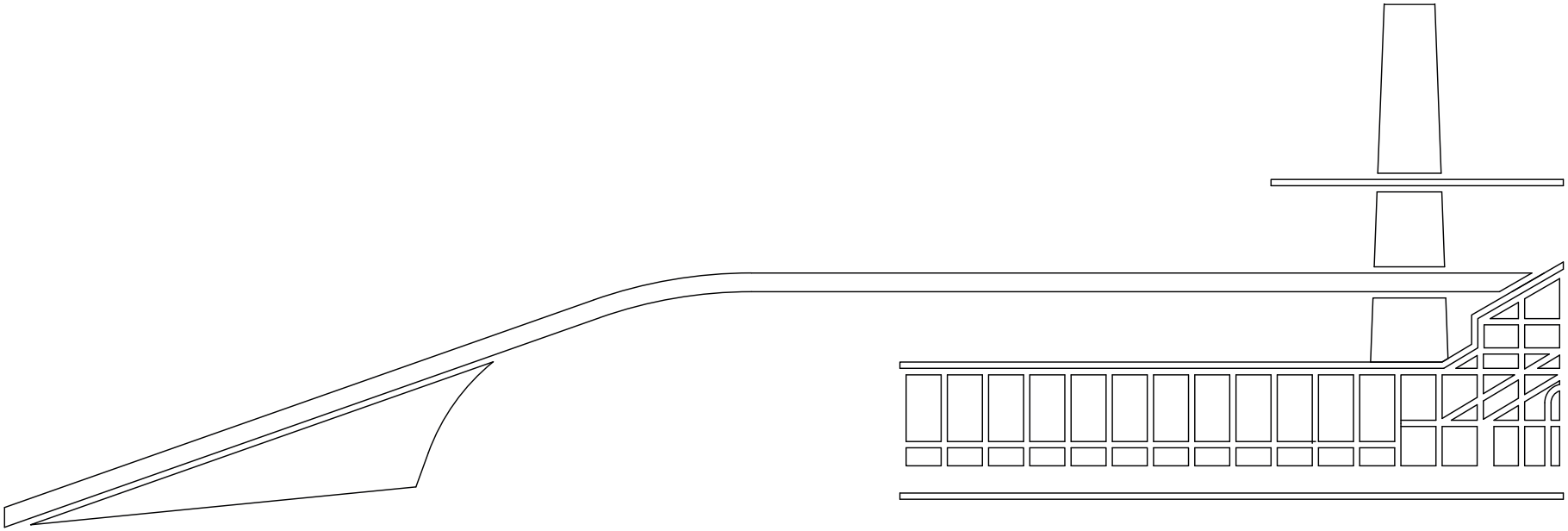
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